

# American Artisan

THE WARM AIR HEATING  
AND SHEET METAL JOURNAL  
FOUNDED 1880

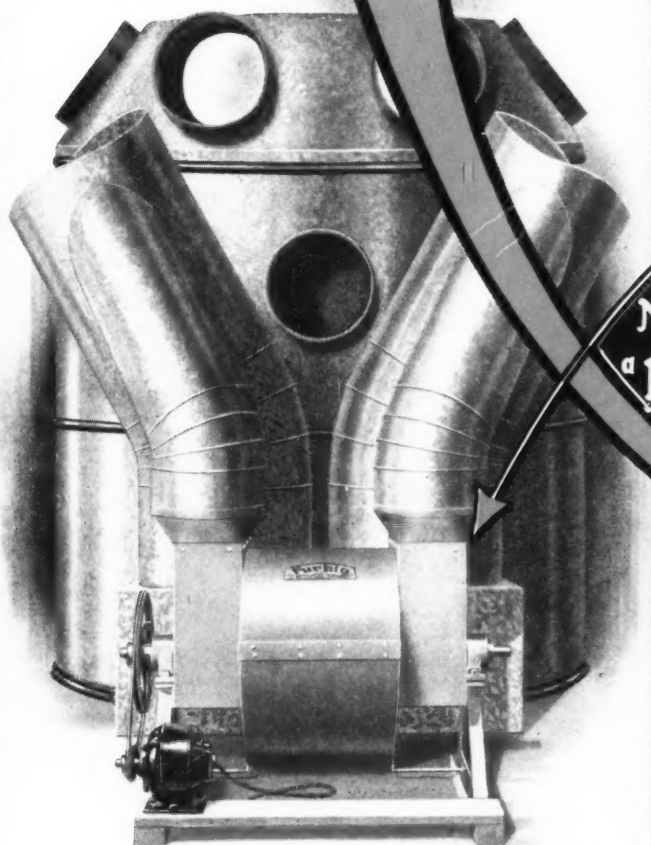
## HERE IT IS-

# Furblo!

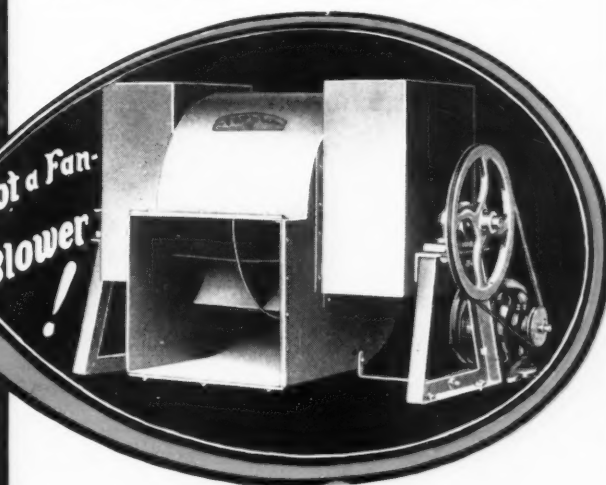
*the Blower  
that opens a  
New Era in  
Semi-Gravity &  
Full Mechanical  
Warm Air Heating*

Furblo is the amazing new furnace blower developed at the request of a furnace manufacturer who knew that mechanical warm air heating would, in 1930, make gravity systems old fashioned.

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Not a Fan-  
a Blower!



## Furblo

*The Quiet Efficient Furnace Blower*

LAKESIDE COMPANY, Dept. 2  
HERMANVILLE, MICH.

Manufacturers of Lakeside Ventilating Equipment

FEBRUARY 1, 1930

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FROM base to bonnet, feature after feature reflects the creative genius of the Rudy organization.

Appearance, performance, durability of construction are all carefully detailed in the remarkable engineering feat of evolving the Rudy Bon-Air Gas Furnace.

Hundreds of outstanding Gas Company executives have already acclaimed it the greatest step forward in Gas Warm Air Heating.

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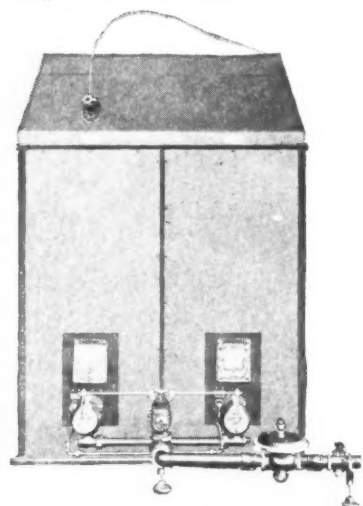
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Quickest possible heat transfer to the air stream.  
Longest possible heat travel of gases before reaching outside flue.  
Approved by The American Gas Association.  
Longest hold over of heat.

Exclusive primary and secondary air control.  
Double radiation shields provide valuable secondary radiating surfaces and eliminate heat losses through the castings.  
Endorsed by The Local Gas Companies.

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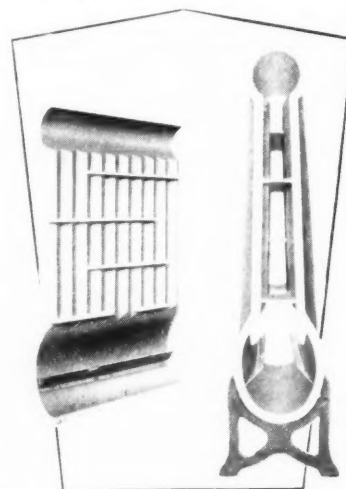
in learning more about the new era of Automatic Gas Heating under Rudy leadership, we cheerfully solicit your inquiry.

Let us submit the evidence that will permit you to prove to your own satisfaction the increasing value of a Rudy Bon-Air Franchise.



No. 120 Rudy Bon-Air Gas Fired Furnace

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Castings only showing fire travel and wiping surfaces.

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**A SAFE BET**



**RICHARDSON**  
"Perfect" Warm Air Heater

We believe in and  
are members of  
The  
National Warm  
Air Heating  
Association

**A** WINNER every time! The Richardson "Perfect" Warm Air Heater is safe to install on any job. Its heating efficiency *will never be out of date*. This heater is one of the reasons why the healthful principle of warm air heat is *here to stay*.

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Manufacturers of "Richardson" "Perfect" Heating and Cooking Apparatus Since 1837

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Utica, N. Y.

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Published Every Other Week by Porter, Spofford, Langtry Corp., 139 North Clark Street, Chicago, Illinois. AMERICAN ARTISAN—the Warm Air Heating and Sheet Metal Journal—entered as second class matter, March 26, 1928, at the Post Office at Chicago, Illinois, under act of March 3, 1879. Formerly entered on June 25, 1887, as American Artisan and Hardware Record.

INDEX PAGES—12 and 44

[VOL. 99, NO. 3—\$2.00 PER YEAR]

BUYERS' DIRECTORY—46 and 48

# "Wholesome Heat is Easier To Sell Than Furnaces"

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*Member National Warm Air Heating Association*

2500 West 27th St., Cleveland, O.



**COMFORT**



**HEALTH**

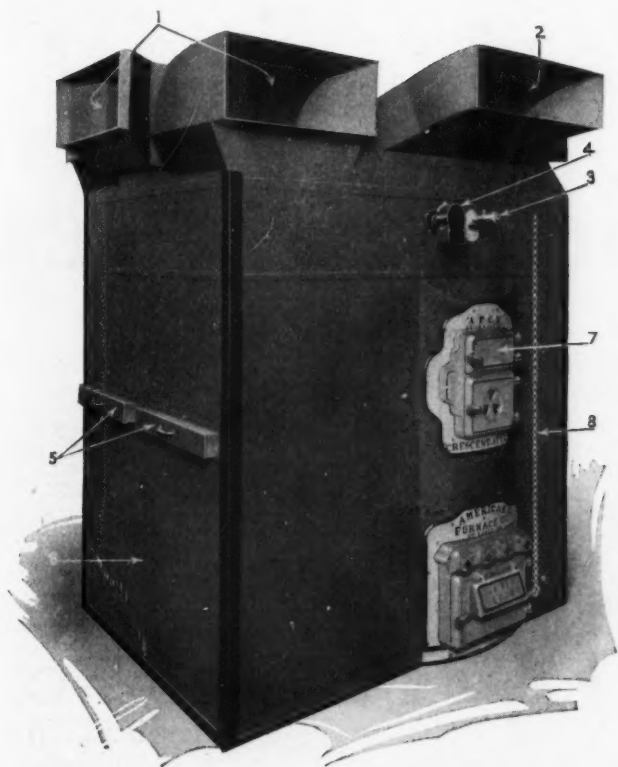


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**WARM AIR HEATING SYSTEMS**

*Mention AMERICAN ARTISAN in your reply—Thank you!*





# NEW! "AFCO DELUX" HEALTHFUL HEATING UNIT

**T**HIS is the very newest in Delux home heating equipment. It will be welcomed by dealers everywhere who are capitalizing on the new popularity of modern, scientific warm air heating.

This is not just an "ordinary" furnace cased up in an attractive cabinet. The furnace is a genuine "AFCO" Boiler Plate furnace with all the features developed through more than 30 years of furnace manufacturing leadership. And this unit is furnished with the best and tested devices for giving automatic control of cleaning the air, circulation, drafts and humidity.

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8. Chain to Automatic Draft Control.

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(BUILT LIKE POWER BOILERS)

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First you need better furnaces with which to make better installations.

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You can tackle the big jobs where they are talking radi-

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Heating Job*

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**The  
Original  
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Now In Its  
Forty-Eighth  
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The Founders  
of the  
Steel  
Furnace  
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offers an exceptional opportunity for both immediate profit and the building-up of a permanent business on the sure foundation of Satisfied Customers.

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Our realization that dealers must sell before they will buy again has helped us to build selling plans and sales helps that really HELP. Shall we help YOU in 1930?

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Illinois

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No. 3 regulator is only 3" wide (especially designed for narrow casings) but has 5" chain travel. Also made in 3 3/4" diameter with 6" chain travel (No. 5).

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No. 00



No. 10



No. 11



No. 18

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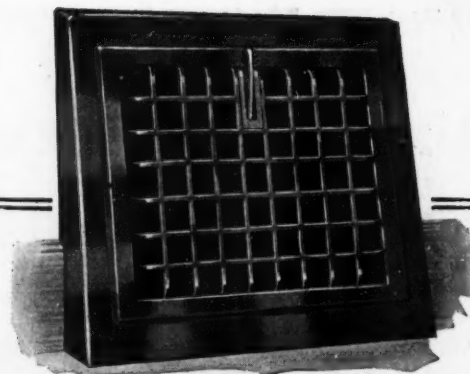
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SUCCESSORS TO FEDERAL MFG. CO.

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of all registers, combining air capacity, decorative and concealing features.

Designed to conform with the Standard Code so they fit all standard boxes.

Auer Patented mechanical features make it perfect in operation,—quick and easy to install.

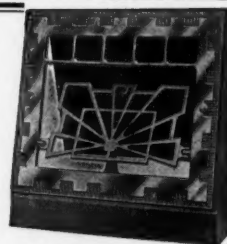
*Auer's Save Hours and Dollars*

The AUER REGISTER CO.

Cleveland, Ohio

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are mighty necessary and important warm air heating equipment—therefore you should carefully select the registers you use.



Let us tell you more about

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"DIFFERENT THAN ALL THE REST"

SYMONDS REGISTER COMPANY

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**INDEPENDENT  
REGISTERS --  
VENTILATORS--GRILLES**  
*"Fabrikated"*  
**COLD AIR FACES**

Any Size Any Finish

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3747 EAST 93rd STREET CLEVELAND, OHIO

**SEND FOR NEW CATALOGUE**

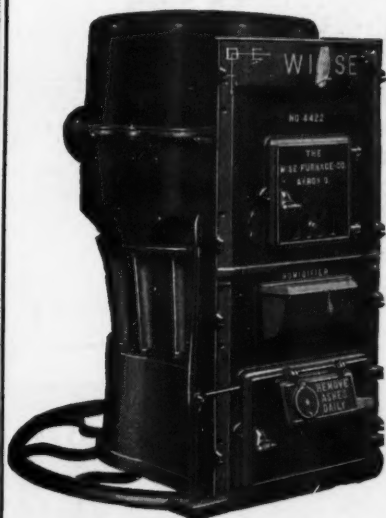
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all your purchases from one source

## WISE FURNACES

BELOW is shown the New Wise Steel Furnace. A Wise product and a steel furnace having exclusive Wise features. Notice the Cast Iron Soot Box and Clean-Out on bottom of Radiator—the weak spot of steel furnaces eliminated.



THE Wise Open Dome 40 Series with Self Cleaning Radiator is even better than ever with its new One-Piece heavy Cellular Firepot and new Elbow Shaped Collar on inside of radiator which is turned up so that all the heat must follow the castings to the top before entering the flue.



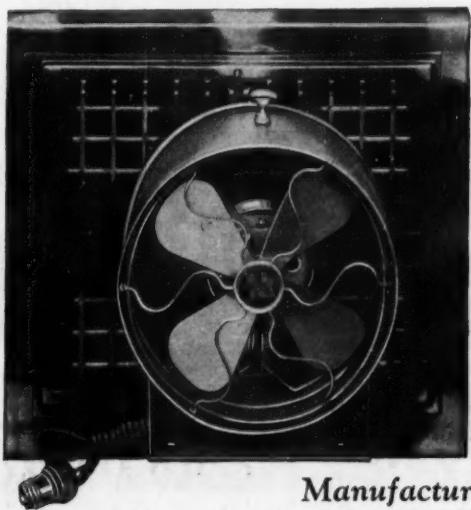
THE Wise 20 Series Return Flue Radiator has a new Patented radiator. Now cleaning the radiator is easy. The feed chamber and the radiator are designed so that the fire flues are easily gotten at from the upper feed door with the soot falling directly into the firepot. Also equipped with the new Cellular Firepot.

Write for catalog No. 23

The WISE FURNACE COMPANY, Akron, Ohio

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Put more heat into the hard-to-heat room with this ROBINSON EVERYDUTY Portable Fan



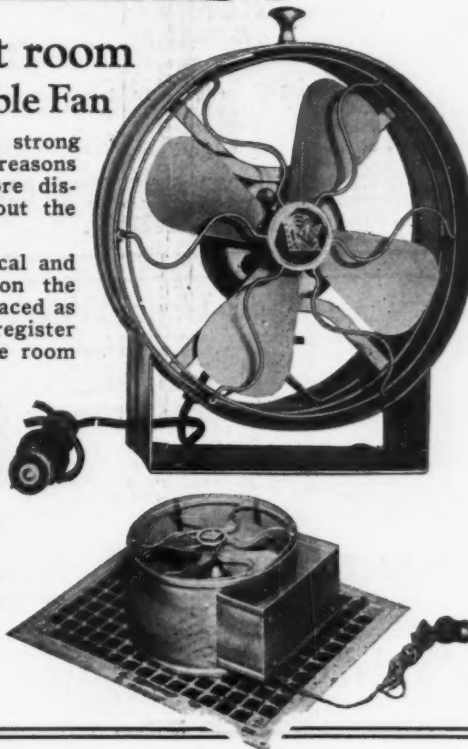
Severe weather and strong shifting winds or other reasons often cause one or more distant rooms to be without the proper amount of heat.

This new unique, practical and economical fan hung on the baseboard register or placed as illustrated on floor register pulls extra heat into the room in a few minutes.

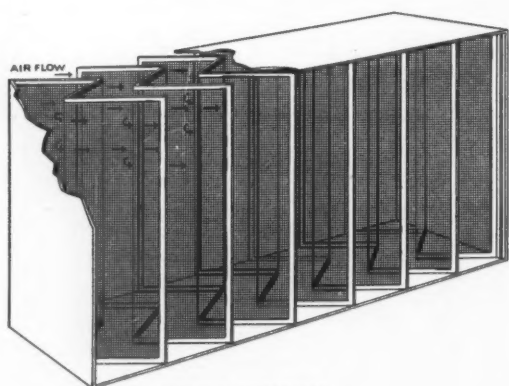
It's just the thing for cold mornings, too, and in the summer it helps cool the room in the same manner.

It's attractive also—casing, fan blades and motor all finished a beautiful green.

Write your Jobber for full details and prices.



Manufactured by  
The A. H. ROBINSON COMPANY  
Massillon, Ohio



PATENTS PENDING

## AT LAST!

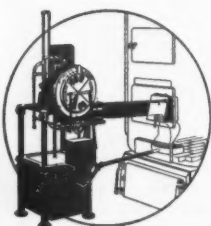
A Filter that really cleans the air without the attendant danger of it matting over, thereby shutting off the air flow. Furnace men everywhere have welcomed this fool-proof filter. Study its construction, note its simplicity. Its use will help you sell the finer jobs.

Clip this ad to your letterhead—Send for details.

**KLEENAIRE FILTER CO.**

STEVENS POINT

WISCONSIN



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Listed by Underwriters

Adaptable to warm-air furnaces because the McILVAINE System of **continuous flame** insures no cracking or burning of fire pots, but produces **even, dependable heat.**

Not an Intermittent Burner

DEALERS: Write for information today.

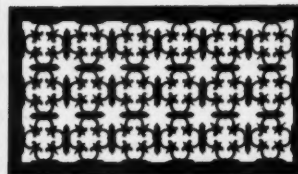
**McILVAINE BURNER CORP.,**

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Ornamental  Ventilating

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COMPLETE LINE IN CAST AND WROUGHT METALS



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Div. Hart & Cooley Mfg. Co.  
Nashua, N. H.



No 378



No 375



No 550

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New  
Furnace  
Paste

### (LARCO) MINERAL PASTE

Non-Cereal  
Non-Souring  
Keeps after  
Mixed

**For Better, Neater, Quicker Work**

Asbestos Paper does not absorb as much Larco Mineral Paste as it does cereal pastes. Paper does not become soggy—not so apt to tear.

Larco Mineral Paste does not turn brown—no stains—mice will not touch it either when moist or dry and it does not gum up the hands.

Larco Paste can be kept on hand mixed ready for use as it does not sour. It has greater covering qualities. It slips easily but adheres permanently.

Write for circular which tells all about it—get Larco prices.

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**Roof Cement — Stove Putty  
Plumbers Putty**

PAINTS and SPECIALTIES

**WILLIAM CONNORS PAINT MFG. CO.**

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Established 1852

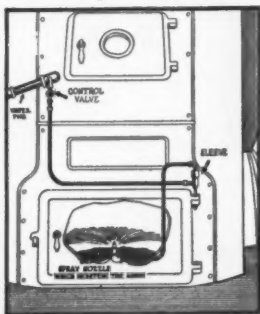
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**MAKE** a hit with your customers —include this patented feature on every new installation—costs little but makes the job of removing ashes a clean, easy task. It prevents dust from spreading throughout the home—saves grates and fuel.

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**DUSTLESS ASH COMPANY**  
MUSKEGON, MICHIGAN

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WE MANUFACTURE A COMPLETE LINE OF BOLT PRODUCTS, INCLUDING STOVE BOLTS, CARRIAGE BOLTS, MACHINE BOLTS, LAG BOLTS, NUTS, COTTER PINS, ETC. ALSO STOVE RODS, SMALL RIVETS AND HINGE PINS. CATALOG ON REQUEST.

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Ten to eleven E.S.T.

**T**HE thousands of sheet metal workers who consistently use and recommend Armco INGOT IRON, commend its easy-working qualities as well as its rust-resistance.

Whether the operation is a simple bend or a severe double-seaming, this soft pure iron responds easily, quickly, precisely. The galvanized coating adheres, too. Waste pieces are few. Time and labor costs are low, in the shop and on the job.

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Executive Offices, Middletown, Ohio  
Export: The ARMCO International Corporation

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Founded 1880

# American Artisan

THE WARM AIR HEATING  
AND SHEET METAL JOURNAL

Published EVERY OTHER SATURDAY—to Promote Better Warm Air Heating and Sheet Metal Work

PORTER · SPOFFORD · LANGTRY CORPORATION

139 North Clark Street, Chicago—Telephone Central 7670

Fred D. Porter, *President*      John C. Langtry, *Vice-President*      Howard H. Bede, *Secretary*  
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Advertising Representatives:

Charles E. Kennedy — J. F. Johnson

New York Office: 1403 Pershing Square Bldg., 100 E. 42nd St., Tel. Ashland 5342

Yearly Subscription  
Price:

United States .....\$2.00  
Canada .....\$3.00  
Foreign .....\$4.00

Vol. 99, No. 3

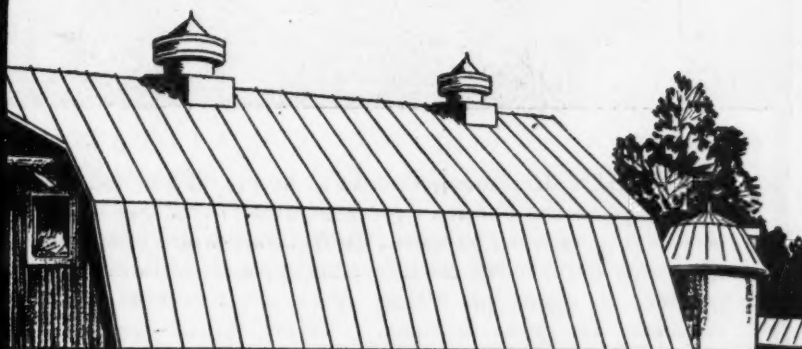
CHICAGO, FEBRUARY 1, 1930

\$2.00 Per Year

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# TONCAN



**Use  
TONCAN  
for every  
purpose..  
for build-  
ing good  
will!**

**P**ERMANENT protection against rust and corrosion, against fire and lightning and the ravishes of time—that's what builds good will from your customers; makes repeat business easy, profitable.

And that's the sort of protection Toncan gives. For Toncan, made by America's largest and most highly specialized manufacturers of alloy metals, is a scientific alloy of pure iron, pure copper and molybdenum. It resists the elements as no other ferrous metal can.

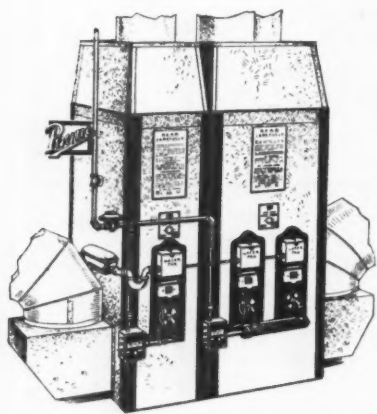
Write for free booklet on Toncan. It pays to know all about this great rust resister.

**CENTRAL ALLOY STEEL CORPORATION**  
*Massillon and Canton, Ohio*



# In the Homes of Hollywood Screen Stars

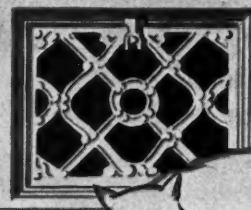
**YOU**, too, may now enjoy "Gas Heating at its Best!" Payne Gas Furnaces are built in a variety of types and sizes . . . for every building and climate. Below is shown the Payne Unit System which provides an instant supply of fresh, pure warmed air in any one room, or in any group of two rooms or more—merely by pressing a button or setting a clock! With this system of "heat control", all the waste, inconvenience and hard labor of furnace tending the old fashioned way is eliminated!



**A**RTISTS, directors, writers . . . nearly all the "big names" you read about . . . live in homes that are heated by Payne Gas Furnaces! In the Hollywood film colony it is just as natural for architect and owner, builder and contractor, to agree on *Payne Heat* as it is for California ranchers to grow oranges. *Payne Heat* supplies even, healthful, dependable warmth for large or small sized dwellings . . . for offices, stores, factories and public buildings. Payne Gas Furnaces have incorporated discoveries and advancements that insure quicker heating results, greater all-around comfort . . . and a degree of operating economy never before achieved in similar equipment! Write for folder: "Five Ways to Heat Your Home with Gas."

## PAYNE

### GAS FURNACES



#### Dealers

The Payne Gas Furnace Franchise for your town may be open. Write today for new Catalog and Proposition!

**PAYNE FURNACE & SUPPLY CO., Inc.**  
Beverly Hills, California

There is a "Payne Heat" System for Every Building and Climate!

#### Payne Heat

Factory Units  
Unit Furnaces  
Floor Furnaces  
Central Furnaces  
Pipeless Wall Units  
Industrial Installations





# American Artisan

THE WARM AIR HEATING  
AND SHEET METAL JOURNAL



Vol. 99

CHICAGO, FEBRUARY 1, 1930

No. 3

## Cost Records—Their Worth and Use

**T**HOUSANDS of sheet metal and furnace men have installed this or that system of bookkeeping or cost accounting, believing thereby that they have permanently solved the cost problem and that they should automatically thereafter make a profit on every job they get.

Now, these men ought to know that no cost system is in itself a cure-all for sloppy or deliberate ignorance of correct figuring; that such a system cannot prevent the dealer from bidding lower than he should; that no system can of itself stop cost losses.

A bookkeeping system can do only one thing—show how much it is costing to do a certain piece of work or perform a certain operation.

Expecting more than this from the system is simply anticipating the impossible.

All of which brings us down to the question: What good is a cost system, anyway?

The bookkeeping system, as we have said, does one thing; it tells us what our costs are. This knowledge establishes a sound basis for figuring jobs. With known costs as a beginning, we can tell what we ought to get for a job and we will know that if we get that price we will make a profit.

But we also know that regardless of what our costs are, local conditions will dictate what we can get for a certain piece of work. If buyers of our service are accustomed to paying a certain price for a piece of work, we can't get more because our new bookkeeping system says we ought to.

"Well," says the skeptic, "then what good does it do me to know how much it is going to cost in labor, materials, overhead, haul, etc., to put in a 12-foot. length of smoke pipe if I can't get the job because Jones will underbid me five dollars and not worry about costs?"

True, that argument does sound like a sticker, but the wise contractor must take the long view. He must know that under the law of supply and demand there

will be enough customers wanting a "good" job, from an established contractor, to give him a percentage of the work done in his community. And there is always the fact that when he does get a job he is making a profit.

Meanwhile Jones may be getting more jobs, but "profit" and not "volume" will determine who succeeds in business, provided the system is accurate and conscientiously maintained.

And here is another feature that should not be overlooked. Knowing his costs, the bookkeeping contractor can begin a systematic campaign to cut costs. His system tells him that it is costing 14 cents a mile to operate his repair truck. Why is it costing him 14 cents and how can that cost be cut? Perhaps a better system of routing the truck, perhaps better tires, better gasoline, will give more mileage and thereby lower costs per mile.

These drives to lower costs result in the contractor being able to lower his costs for a certain piece of work. Perhaps not radically, but nevertheless soundly. And with the lowering of the costs the margin of profit is still retained. Jones meanwhile is still bidding low, his costs are still high, and probably he doesn't even know what his costs are. At the end of the year Jones may have done \$15,000 worth of business, but his profit is in the red.

The answer is, ten years later the bookkeeping contractor is still doing business at the old stand and Jones has faded out of the picture. Probably his place has been taken by another optimistic low bidder and the battle goes merrily on.

But the bookkeeping contractor must remember this: That so long as human nature is as it is, the foolish contractor will continue to be with us, and success can only come through making business pay a profit, regardless of what Jones does.

There must be a sound cost keeping system.

## American Artisan Now Published Every Two Weeks

*We have received a large number of letters during the last four weeks from readers who want to know what has become of their copies of the American Artisan. We take this opportunity of republishing the notice of January 4 that the magazine is now being issued once each two weeks. The next issue will be February 15.*

# Sheet Metal and Warm Air Heating Contractors Association of Indiana Holds Annual Convention



**Virgil Roland**

Sheet Metal and Warm Air Heating Contractors of Indiana held their eleventh annual convention in the Hotel Dennison, Indianapolis, on January 21, 22 and 23.

And it was one first class meeting.

This convention marks the second annual meeting since the consolidation of the Indiana sheet metal and furnace men. The convention was a tribute to the work of the officers of the combined associations. The meeting clearly indicated what can be accomplished by strong officers, backed by enthusiastic cooperation on the part of the contractors and dealers. From every angle, this year's meeting was a success.

When the smoke cleared away, more than 200 persons had registered. And even more impressive was the fact that most of these men were intent on getting information about new equipment, new methods, new problems, at first hand. This desire for information seemed to be the keynote of the entire meeting. Sessions were well attended, display booths always had a quota of visitors, and the business sessions

showed interest in officers and association accomplishments.

Much credit must be given the officials for the smooth way the program went forward and the well arranged booths and provisions for carrying on business. Meetings ran off close to schedule, with sessions beginning promptly and speeches held closely to the time allotted.

Much has been done during the last year to consolidate the gains made after the last convention. Offi-



**Oscar Voorhees**

cers have been active and committees have done good work. Good will for the association and a more complete cooperation between members have been cemented.

The officers for 1930 are as follows:

President—Virgil Roland, Elkhart.

First vice-president—H. A. Beaman, Indianapolis.

Second vice-president—Oscar Voorhees, Indianapolis.

Treasurer—Thomas Ewing, Huntington.

Corporation secretary—Homer Selch, Indianapolis.

Executive secretary—Paul R. Jordan.



**L. A. Cooper**

Directors, 3 years—Frank E. Anderson, Terre Haute, and Charles Gatz, Gary.

Directors, 2 years—Elmer Livezy, New Castle, and John Balkema, Lafayette.

As a part of the business meeting a message of wishes for returned health was voted and a committee appointed to carry it to Joe Gardner, who was ill. Joe is one of the old standbys of the Indiana organization and has been active in the association for many years.

## Tuesday Meeting

Business and social activities marked the first day's program. Registrations, opening of the exhibits, meeting of the Board of Directors and Nominating Committee and a business session consumed the entire day. The exhibits opened early in the morning with practically every booth occupied.

The number and arrangement of exhibit booths was very effective. About twenty-five exhibitors reserved space, but because of bad weather conditions throughout Indiana some of the exhibits did not reach the convention in time to be



used. Of those actively exhibiting, 18 booths displayed the wares of the various manufacturers or dealers.

The officials had the booths arranged along the two outer sides of the exhibit hall, with two rows back to back down the center. Exhibitors were given much leeway in the arrangement of the booths, and some interesting displays resulted. It was quite noticeable that these booths were freely patronized.

### Wednesday Meeting

The first thing on the Wednesday program was the annual election of officers. The new president, Virgil Roland, assumed office immediately upon election. As a part of the later business session a resolution was made and carried that after this year incoming presidents should not take office until after the meetings of the convention. This will permit the old president who is familiar with the doings of the association during the past year and who knows how and why the program is conducted to see the meetings through the convention.

The first paper on the morning program was by E. A. Scott, editor, Sheet Metal Worker. The title of the paper was "New Ideas—Their Cost and Worth." Due to illness,



Charles Gatz

Mr. Scott was not able to attend the convention, so his paper was read by Guy Voorhees. The paper is published on another page of this issue.

Following Mr. Scott's paper, C. A. Stothard, department manager, Big Four Railroad, delivered a talk on "Business and the Railroads." Mr. Stothard gave listeners many unusual and interesting aspects of the railroad situation and made out a sound case for the railroad companies.

One of the best ideas he brought out was that of "Companionate prosperity," in other words, no one individual, no one company, no one industry can survive and prosper when industry or the country or the state or the community is in a depressed or unsound condition. That



Homer Selch

this meets the railroads' situation quite as well as it does the sheet metal contractor or the furnace man can be readily understood. Mr. Stothard also gave some very enlightening figures on the cost of hauling commodities. He said that when the railroads are prosperous, more than three billion dollars in payrolls are returned to trade channels every year in addition to another billion which represents the average buying power of our railroads in an average year.

In the afternoon E. C. Carter, editor, Furnaces and Sheet Metals, gave an illustrated talk on "Fans in Heating." Slides shown illustrated

typical installations of fan equipment and the talker detailed the features of each installation.

It was Mr. Carter's contention that the usual warm air furnace basement ought to be a thing of the past. Contractors should be able to



Paul R. Jordan

install a furnace wherever it is most convenient rather than have to place it in one spot because it would not work elsewhere.

One of the most important points brought out by Mr. Carter was the statement that the furnace man today must be in a position to competitively bid on heating jobs in houses selling from \$15,000 up. Heretofore the furnace man has seemed to feel that anything so expensive was out of his class, but recent advancements in the industry have taught the warm air man that he has just as good a heating system as any other contractor, but he will have to learn how to sell the medium or costly house prospect.

The last paper on the Wednesday program was given by Professor J. D. Hoffman, director of Department of Practical Mechanics, Purdue University, whose hobby is warm air heating.

Professor Hoffman outlined de-



velopments in heating during recent years. He covered not only the warm air heating field but the steam and hot water fields as well. According to Professor Hoffman, the warm air heating man has nothing to be afraid of; in fact, more real constructive progress has been made in the field of warm air heating than in any of the others. This trend, said Professor Hoffman, is indicated by the frantic efforts of the steam and hot water men to conceal and beautify radiators, to stress and perfect humidifying apparatus, to talk, in short, about the very things the warm air heating man has always possessed but has not made best use of. Most of this paper is published on another page of this issue.

During the noon recess the Standard Metal Company of Indianapolis gave a luncheon at the Chamber of Commerce. More than 100 guests attended, and from reports, the food was excellent. After the luncheon A. Lamneck gave a short talk on general business conditions for 1930 and J. R. Lumm detailed some new and old uses of leaded copper in sheet metal work.

#### The L. O. S. T.

All of which brings us down to that important and interesting meeting of the convention—the initiation and theater party of the famous and widely known Loyal Order of Stinky Tinks. Now the name does not give quite as true a definition of the order as those who went through the performance might relate. Putting the matter concisely, this regal troupe sure put on a show. We would like to give a detailed description of that famous affair, but oaths of induction prevent this. The initiation was followed with a party at one of the local theaters. A bevy of beautiful and enticing damsels was put through their paces to the cheers of the special audience. To cap the performance, the queen of all shimmy dancers appeared by special permission of the keeper of the royal harem and delighted the boys with a coy display of those feminine charms known only to hooch dancers.

#### Thursday Program

The Thursday morning session began with an address by Jack Stowell, special representative of the Better Business Committee of the National Warm Air Heating Association. The subject of Jack's talk was "Better Business." The talk was illustrated with charts and displays and discussed merchandising. Every furnace man or every sheet metal man might well heed Jack's ideas.

The paper discussed the benefits of salesmanship and advertising as applied to the sale of warm air furnaces. The talk was well received and attracted considerable com-



Frank E. Anderson

ment. The paper will appear in following issues of the AMERICAN ARTISAN.

J. M. Triggs, president of the National Warm Air Heating Association, brought greetings from the national association and gave some delightful reminiscences of his early days as a tinner's helper. In addition he discussed the work the association is doing and outlined the helps available for the contractor using association literature and discoveries.

W. C. Markle, secretary, National Association Sheet Metal Contractors, related the benefits to be found in the new book, "Standard Practice in Sheet Metal Work." He detailed the activities of the national association in placing the book in the hands of those architects and

agencies which can bring benefit to the industry. He read letters of praise from those receiving the book. He said that any local association ought to derive great benefit from a distribution of the book to the architects and engineers handling sheet metal work in an association's locality.

The afternoon session was begun with a paper by L. C. Leimkuehler of the Copper and Brass Research Association. The title of the paper was "Copper in Buildings." The paper was well received and contained much of interest. The paper as presented is published in this issue of AMERICAN ARTISAN.

The last paper on the program was by J. E. Merrick, president of the National Association of Sheet Metal Contractors. The title of the paper was "Trade Ethics." The gist of the address was the need of cooperation. Mr. Merrick read a poem relating the experiences of two jackasses tied together with a rope, each wanting to eat his bit of hay. Tied together, neither could reach the hay. Through cooperation both dined well.

So are conditions today, Mr. Merrick stated. Cooperation is needed regardless of what line of work a man is engaged in. The national associations are a visible evidence of this cooperation, but they must have the further cooperation of the local organizations and, indeed, of each individual, if they are to succeed.

#### The 1931 Place of Meeting

At the end of the program the important matter of where to hold next year's convention was voted on. The contractors and salesmen operating in the Ft. Wayne territory were busy all through the convention lining up votes for their city. As a result of their efforts the convention voted to hold the 1931 convention in Ft. Wayne.

The last thing on the program was the annual dinner and dance. The dinner was given in the Chamber of Commerce dining room and proved to be a thoroughly enjoyable affair. More than 100 guests at-

(Continued on page 31)

# Trade Practice Committee Announces Rules of Business Conduct for Heating Industry

A trade practice conference for warm air furnace manufacturers in charge of Commissioner Edgar A. McCulloch, chairman of the Federal Trade Commission, assisted by M. Markham Flannery, director of Trade Practice Conferences, was held in Cleveland, Ohio, October 23, 1929. The statement of the commission resulting from the conference is now public. The statement follows:

On the basis of production, it was estimated that 75 per cent of the industry was present or represented at the conference.

After the scope, character and procedure of the trade practice conference had been explained, A. W. Williams, secretary of the Warm Air Furnace Institute, was unanimously elected secretary of the conference. B. G. Watson, counsel for the Warm Air Furnace Institute, then spoke briefly on the problems of the industry and the events leading up to this trade practice conference.

After consideration by the Commission of the resolutions submitted, former Resolution 6 was stricken because covered by Rule 4. The proviso in former Resolution 12 was stricken, and a modification by the Commission of this portion of the rule was placed in Group II as Rule 13. Former Resolutions 17 and 20 were also stricken, together with a note of the industry accompanying former Resolution 18.

## GROUP I

**Rule 1 (formerly Resolution 1)**—Wilfully inducing or attempting to induce breach of an existing contract by any means or device whatsoever during the term of such contract, or interfering or attempting to interfere with the performance of any contractual duty or service connected therewith, such breach or

interference being for the purpose or with the effect of dissipating, destroying or appropriating, in whole or in part, the patronage, property, or business of another engaged in the industry, is declared to be an unfair trade practice.

**Rule 2 (formerly Resolution 3)**—

*On October 23, 1929, about sixty warm air furnace manufacturers met in Cleveland with the Federal Trade Commission to discuss the possibility of passing a set of rules which would eliminate the evils in the industry. Reason and logic had no effect. What was then urgently needed was a general house cleaning. Now, after several months deliberation, a set of rules has been adopted and are published herewith.*

*It is now up to the offending parties to watch their step. Violations of the regulations subject the violator to severe penalties. The industry is now in a position to watch developments and see whether Federal management will be able to overcome those evils which the industry could not manage by itself. Every one of these rules should be read and studied by manufacturer and dealer.*

Secretly paying or promising to pay to an employe or representative of a customer or a prospective customer a commission or consideration of any character whatsoever for the purpose of inducing or compensating for the efforts of such employe or representative in inducing a sale is declared to be an unfair trade practice.

**Rule 3 (formerly Resolution 4)**—The false marking or branding of

the products of the industry for the purpose or with the effect of misleading or deceiving purchasers with respect to quantity, quality, grade, size, measurements, heating capacity or substance of the product is declared to be an unfair trade practice.

**Rule 4 (formerly Resolution 5)**—Withholding from or inserting in the invoice, statements which make the invoice a false record, wholly or in part, of the transaction represented on the face thereof, and, or the payment or allowance of secret rebates, credits, refunds, unearned discounts, unauthorized allowances, whether in the form of money or otherwise, or the secret extension to certain purchasers of services or privileges thereunder not extended to all purchasers under like terms and conditions, is declared to be an unfair trade practice.

**Rule 5 (formerly Resolution 7)**—Selling below cost for the purpose of injuring a competitor or with the effect of lessening competition is declared to be an unfair trade practice.

**Rule 6 (formerly Resolution 8)**—Defamation of competitors by words or acts, and, or the making, causing or permitting to be made, or the publishing of any false, untrue, misleading or deceptive statement by way of advertisement or otherwise concerning the character, financial standing, quality, quantity, nature or origin of a competitor's merchandise, or of his methods of doing business, is declared to be an unfair trade practice.

**Rule 7 (formerly Resolution 9)**—The making, causing, or permitting to be made or published of any false, untrue, misleading or deceptive statement by way of advertising, including all forms of printed matter, or otherwise, concerning the grade, quality, quantity, character, nature, origin, measurement, heat-



ing capacity or preparation of any product in the industry is declared to be an unfair trade practice.

*Rule 8* (formerly Resolution 10)—False representations in the sale or offering for sale of any product of the industry with the effect of deceiving purchasers or prospective purchasers as to the quantity, quality, substance, size, measurement, or heating capacity of such product is declared to be an unfair trade practice.

*Rule 9* (formerly Resolution 11)—The unlawful imitation of the trade-mark or trade name, or the unlawful use of copying of patterns, designs, decorations, cuts or advertising of a competitor is declared to be an unfair trade practice.

*Rule 10* (formerly Resolution 12)—Any discrimination in prices between purchasers of the same class other than (a) on account of the difference in grade, quality or quantity of the product sold, or (b) those which make only due allowance for the difference in the cost of selling and transportation, or (c) in the same or different communities, in good faith to meet competition, where the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly, is declared to be an unfair trade practice.

*Rule 11* (formerly Resolution 19)—The false publication of any price, discount, or terms of the manufacturer is declared to be an unfair trade practice.

#### GROUP II

*Rule 12* (formerly Resolution 2)—The acceptance of orders for large quantities of furnaces by manufacturers, except for a specific building operation, and then making small deliveries at quantity prices for the purpose and with the effect of discriminating between different purchasers, is condemned by the industry; provided, however, that nothing contained herein shall preclude the publishing of quantity discounts and the granting of such quantity discounts when the purchaser has complied with the published requirements entitling him to such discounts.

*Rule 13* (modification of portion of former Resolution 12)—It is hereby declared that special quantity prices should be applicable only to a definite quantity of goods which are placed in one order and, at the option of the seller, to be forwarded in one shipment as promptly as possible.

*Rule 14* (formerly Resolution 13)—In order that price discriminations may be abolished and that the members of the industry may not be imposed upon by the representatives of purchasers as to prices quoted by other manufacturers, it is agreed that the manufacturers, while maintaining absolute freedom in the issuance of price schedules from time to time in conformity with the established trade practices, will publish to the purchasing trade price lists containing all of the terms relating to the various classes of purchasers, and that such published prices shall truly represent the sales price in all cases where the goods sold and conditions and terms are set forth in the members' price schedules; provided, however, that nothing in this rule shall be construed as an obligation to any one to maintain any price any length of time; and provided further that published prices in this industry are hereby defined as such prices as are set forth in regularly issued schedules and distributed to agents, salesmen, dealers and buyers.

*Rule 15* (formerly Resolution 14)—The service which a warm air furnace will render to the user is dependent not only upon the quality and the correct size for the use intended, but also upon the method of installation. The issuance of a guaranty against defective material or workmanship, coupled with a guaranty of successful performance, which does not provide definitely for the replacement of defective parts on account of workmanship or material within a stated time, and for replacement if installed in accordance with the standard code approved by the National Warm Air Heating Association, or as altered by municipal ordinances at the residence of the user, and fails to com-

ply with approved standards of performance, is condemned by the industry.

*Rule 16* (formerly Resolution 15)—The practice of accepting orders for small quantities from several different buyers and shipping the same in a carload for distribution to the separate buyers and charging each of such buyers on the basis of the carload price for the quantity intended for their separate use is condemned by the industry.

*Rule 17* (formerly Resolution 16)—The sale or offering for sale of any product of the industry under any form of guaranty to the purchaser or proposed purchaser against both advance and protection against decline in the price of the said product is hereby condemned by the industry.

*Rule 18* (formerly Resolution 18)—The practice of extending unreasonably long terms of credit or of unreasonably late dating of invoices is condemned by the industry.

*Rule 19* (formerly Resolution 21)—All publications of prices in the industry shall include a statement of all freight allowances, if any, granted.

Thirty-nine furnace manufacturers and trade papers were represented at the conference.

#### Nature's Daggers

Icicles may seem harmless, but word has just been received by the National Safety Council that an 18-inch icicle fell on a man's head recently and killed him.

Ever notice how icicles are shaped? More like daggers or stilettos than anything else formed by nature.

Ever notice how they hang? Point down, hilt up, ready for the thrust when Old Sol commands.

Falling icicles present a real winter hazard. They often grow until they weigh 25 pounds or more before they drop. January and February thaws release them from their moorings.

It is a good plan to be one step ahead of Mr. Sun and take icicles down before they fall.





Kitchen Interiors Can Be Brightened by the Use of the New Metal Sinks. In This Kitchen the Work Table Also Has a Metal Top.

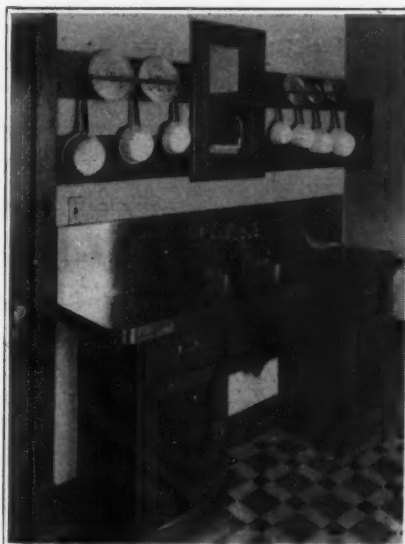
## Metal Sinks Offer Sales Opportunities to Sheet Metal Workers

The growing demand for sheet metal sinks, especially those of white, rustless monel metals, offers increased opportunities to the sheet metal worker.

Within recent months there has been a noticeable trend towards the use of this type of kitchen sink in both apartment houses and suburban homes. In a new cooperative dwelling in Brooklyn more than fifty such sinks were installed. Several new apartment houses of the more luxurious type in Manhattan also contain sinks of this construction. They are also being used in the more modest dwellings as well.

The popularity of this type of sink is due to several causes. In the first place the modern housewife seeks a brighter, more colorful kitchen than her mother was accustomed to, and the sink made of

white metal will blend readily with any decorative scheme desired. The metal sink has the additional advantage, say the manufacturers, of being stronger, easier to clean and



keep clean, and more attractive in appearance. The metal sink also can be made in almost any size and of a wide variety of designs.

Another point in favor of the metal sink is in the latitude it permits in design and construction. This has been an especially strong factor for its growing use because of the modern tendency to utilize every available inch of space. The metal sink can be built to fit into any convenient corner. It also offers an opportunity for combining the sink with other items of equipment, such as cupboards, refuse receptacles, drawers, and the like.

Several scores of designs of metal sinks were submitted in a contest conducted recently by the Art Alliance of America. Many of these embodied new and interesting ideas.

(Continued on page 28)

# Some Tips on Coal Industry Activities

*Any Warm Air Furnace Dealer Can Tie Up with This Work Profitably. You Ought to Know the Anthracite Engineer in Your Community.*

A lot of talk has been going through the warm heating industry, most of it to the effect that the furnace man has to stand up and fight his battles unassisted. Here and there, however, a dealer has made contact with the promotion departments of other industries or associations with the result that he has had opened to him new lines of sales and promotion efforts and has benefited by what other industries are doing to make the nation's householders "heating conscious."

It is not often that the industry has an opportunity to get first hand information about the ramifications of the promotive activities of industries which are vitally interested in having home owners use furnaces. But Daniel T. Pierce, vice-chairman of the Anthracite Institute, gave a vivid picture of his industry's activities recently in a speech before the American Mining Congress.

This speech is not reproduced in full, but those portions touching on the activity of warm heating industry are quoted. Outlining the work of the institute, Mr. Pierce said:

"All that can be said today with any degree of certainty about anything in this country is that it will not remain the same. This rule applies, of course, to anthracite and to domestic heating. For nearly a century the industry progressed or at least went along in very much the same way. This may also be said of household heating. Then about five years ago a revolution began and we are in the midst of this revolution at the present moment.

"What has been done, what is being done by the anthracite industry to adjust itself to and progress with the times?

"As a first step the industry greatly improved the quality of its product. It installed and is installing improved machinery, but perhaps that is not so important, after all,

as is the fact that it has raised its standard of preparation and is living up to it. In sizing and elimination of impurities the standards of the present day are way above those of the past. Competitive conditions among other considerations are an assurance that these high standards will be maintained.

"Along with improvement in quality has come an even more striking improvement in service. The word service may be used here in a double sense, including that kind of service that means prompt and uninterrupted supply, and service as represented by the engineering organization which the industry supports. This engineering service now thoroughly covers the entire anthracite-consuming territory, with offices extending from St. Paul in the west of Portland, Me., on the north and down through the Atlantic seaboard states to Washington.

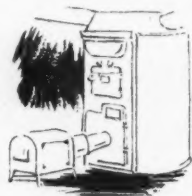
"The service consists of a large corps of combustion engineers whose advice and assistance are freely available to any anthracite consumer. It endeavors not merely to eliminate troubles, but to avoid them. To this end Anthracite Coal Service conducts educational classes for coal dealers and in the past two years has graduated thousands of men who are able to handle any or-

dinary heating trouble that arises in the home.

"Campaigns have been instituted in hundreds of communities for inspection and cleaning of domestic heating plants. This was done because it was soon found out that over 90 per cent of household heating troubles arose from faulty equipment or faulty operation of good equipment. This whole effort is an outstanding industrial accomplishment.

"But it is realized that the efforts to make existing heating plants perform satisfactorily is not going far enough. Better and more convenient means of household heating are demanded.

"From all the signs available it appears that mechanical stokers are going to be more and more in demand for household heating. Only about twelve or fifteen thousand of these devices have been installed in anthracite-consuming territory. That is only a very small beginning. If we have rightly gauged the demand for automatic operation of domestic heating plants, the stoker in one form or another must do the work. Three or four devices now on the market have proved the practicability of automatic heating with anthracite and it is only a question now of further perfection of these



## COMPANIONATE PROSPERITY

Today is a period of co-operation. No one industry can prosper unless all other industries prosper. Any furnace dealer or sheet metal contractor ought to avail himself of every agency which seems likely to give him leads to new business. Read in this article what the coal men are doing. Co-operate with them and your business should pick up.

devices, reduction in their cost and provision of the service that must go with them. The sale of a hundred thousand domestic stokers annually is not only a possibility; it is an imminent probability. The change will not come over night. It is a matter of years, but that household heating, like refrigeration and washing, will ultimately be mechan-

"With this development will, of course, come a pronounced change in the domestic demand for the smaller and larger sizes, because while it is no doubt possible to devise stokers using the domestic sizes, if they will work just as well on the junior sizes, it is fairly certain that the latter will be employed.

"There will be a painful stage in this evolution from large to small sizes, because it is only on the larger sizes that the industry makes any profit. However, it is obvious that with increasing demand for the smaller sizes for domestic use it will be possible to raise the price of these sizes, level down the price range which now represents the extreme from \$9.20 at the mine for stove down to \$1.50 for barley, and in the end realize the same amount of money on the whole production.

"Research work of the industry is not of course directed solely toward the development of stokers. It is concerned with ash disposal devices and with heat control systems. Thermostatic control, while half a century old is not universally availed of as it should be. We aim to secure the installation of a fool proof heat control device in every home that uses anthracite.

"There is, furthermore, a great field for improvement, not only in the design of furnaces and boilers but in their installation. The cellar has been a badly neglected part of the household. Not only is this neglect chargeable to the boiler manufacturer and the coal man, the architect is also responsible for failure to consider convenience. In our attack on this problem we are seeking and hope that we will have the help of the architect and builder as well as the heating appliance manufacturer."

## Inaugurate Coal Slogan Contest

Warm air furnace men will be interested in the coal slogan prize contest inaugurated by the National Retail Merchants' Association.

The nation's sixth largest industry needs a slogan for its educational work. Everyone in the world benefits by coal, so the industry has turned to the public for a slogan expressing the value of a fuel which has not only been an empire builder but through the ages has created safe, dependable and economical comfort.

One thousand dollars will be awarded in prizes as follows:

1st prize .....	\$500.00
2nd prize .....	200.00
3rd prize .....	100.00
4th prize .....	50.00
5th, 6th, 7th prizes.....	25.00
8th, 9th prizes.....	10.00
10th to 20th prizes.....	5.00

Although a good slogan for coal will undoubtedly be produced from the contest, the principal objective of the campaign is to get as many people as possible to read and know the facts favorable to coal which are listed in the leaflet.

The slogans already submitted show that hard study has been made on the facts in the leaflets listed under the heading of "to help you in writing your slogan." More than 10,000 slogans have been submitted up to this time.

More than a million pieces of good-will building material for the coal industry have been put into the hands of the coal-consuming public in the promotion of the coal slogan prize contest.

The plan and scope committee is composed of the executive secretaries and directing heads of coal associations.

The two committees represent the entire coal industry and are working to put over the industry's first cooperative movement, which is truly a nation-wide, industry-wide program.

Each association official is covering the territory served by his association and has presented the coal

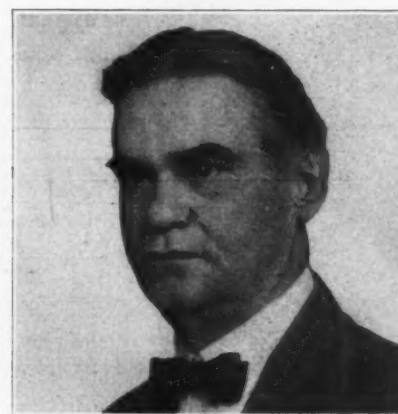
slogan program first to the association members.

So far forty states are participating in the Coal Slogan Prize Contest. The committee members represent 26 states and D. C.

### BEG YOUR PARDON

In the January 18th issue of the AMERICAN ARTISAN a short article on the changes in official personnel of the American Rolling Mill Company appeared on page 37. Through error, the names of the officials were incorrectly placed under the photographs. We beg your pardon.

The photograph designated as



J. H. Frantz

Charles R. Hook should be J. H. Frantz. The photograph designated as Calvin Verity should be C. R. Hook.

Many readers will recognize the error and wonder how the mistake occurred. To be sure the corrections are made, we are showing the photographs again and correcting the captions.



C. R. Hook





*Use of copper and brass by sheet metal men is undoubtedly on the increase. But the metal, being of comparatively recent adoption, must be studied. The Copper and Brass Research Association has gone into research extensively. Its findings in the last year are here related, as told by L. C. Leimkuehler to the Indiana Sheet Metal men's convention.*

## If You Use Copper or Brass You Ought to Know All About These Latest Facts

The Copper and Brass Research Association is supported by more than 90 per cent of the copper producing and fabricating industries of the United States. Its activities are devoted to research and promotional efforts in behalf of appropriate uses of copper, brass and bronze.

Naturally among the appropriate places there is a particularly appropriate use for brass and copper in good construction. Thus the association, in addition to promoting the interests of the industries which support it, can be and is of material help to the sheet metal trade.

The important ways in which the association endeavors to serve the sheet metal trade—in fact, the entire building industry—may in part be illustrated by research just completed in connection with copper roofing.

Some three years ago we entered into this research work in cooperation with the Bureau of Standards at Washington, D. C. Among the objects of the investigations were determination of temperature ef-

fects, safe loads for corrugated roofing, strength of soldered seams, corrosion of flashings, capacity and design of gutters and cross-splitting of sheet copper.

Laboratory tests at the Bureau were under the supervision of a research associate functioning for us in the Bureau. The Bureau has already made public a part of the results of the tests in the Bureau's Journal of Research which is available to everyone interested.

In connection with soldered seams the tests brought out such points as that on the average  $\frac{1}{2}$ -inch lap seams are as strong as the sheet on 14-ounce copper,  $\frac{3}{4}$  or 1-inch on 18-ounce copper, and  $\frac{3}{4}$ -inch pretinned on 20-ounce copper. It was also developed that pretinning with 50-50 solder (half lead, half tin) or with tin increases the strength of lap seams and greatly increased the strength of  $\frac{1}{2}$ -inch flat lock seams.

Soldered lap and flat lock seams were tested under prolonged loads. The results indicate that the maximum load which the seams can with-

stand indefinitely without failure is in the neighborhood of 250 pounds per square inch of seam. A liberal factor of safety should always be used to allow for any defects in soldering.

Turning to open valley flashings, the tests showed that line corrosion may occur not only with wood shingles but also with slate, asbestos shingles, composition shingles and under exceptional circumstances even when one sheet of copper overlaps another. First, the rain water falling on the roof must be contaminated by the atmosphere and by dust and dirt from the roof. The fact that the known failures of flashings have occurred in cities not far from the seacoast suggests that line corrosion will not be serious except in the presence of both sulphur dioxide and sodium chloride. Second, rain water must be retained in contact with the flashing for an appreciable time after rainfall has ceased in such a manner that part of it is exposed freely to the air and part of it is shielded. And

third, if line corrosion is to occur in copper, the retained water must not be stirred or agitated. The Bureau recommends, particularly in cities near the seacoast, that a smoothly finished hardwood batton strip, preferably waterproofed, about the dimensions of a lath, be inserted between the flashing and the roofing, about 1 inch back of the edge of the roofing, and nailed firmly and tightly to the flashing. There is reason to believe that, if this precaution is followed, no perceptible line corrosion will occur in 50 years.

Rainfall data of 21 cities were studied in connection with determination of capacity and design of gutters. Laboratory tests were a part of this research. Twenty-one level gutters were used in lengths from 6 to 21 feet, widths 3 to 6 inches, in both semi-circular and rectangular shapes, to determine appropriate depths of gutter. Charts and calculations will be included in the Bureau's report.

The rainfall data for the 21 principal cities indicated that a rain-storm of 5 minutes' duration at an intensity of  $7\frac{1}{2}$  inches per hour will not occur more than once in 9 or 10 years. If overflow of gutter is a matter of inconvenience only, the research shows that a rainfall intensity of  $7\frac{1}{2}$  inches per hour may be assumed for design. In the case of buildings constructed for long periods of use, such as churches, Government buildings, libraries, and so on, overflows are not permissible since staining of stone occurs or water may do other damage when blown by wind. There maximum rainfall rates should govern design and be for an intensity of 10 inches per hour.

The tests disclosed that the point at which overflows appear to be most frequent is the junction of gutter and leader. This junction should be designed to permit utilization of the full capacity of gutter and leader. It is emphasized that the drain at the end of the leader should be of ample capacity to prevent a static head of water being built up in the leader.

The association wants to be of service to every user of copper, brass and bronze. We want contractors to avail themselves of every service within the association's ability to render.

#### Here's a Little Bit of Good News!

Well, all you fellows who are worrying about paying that next income tax to Uncle Sam can get a bit of consolation out of a ruling recently laid down by Commissioner Lucas of the Internal Revenue Bureau.

While, under this ruling, there will be no general extension of time for filing 1929 income tax returns,

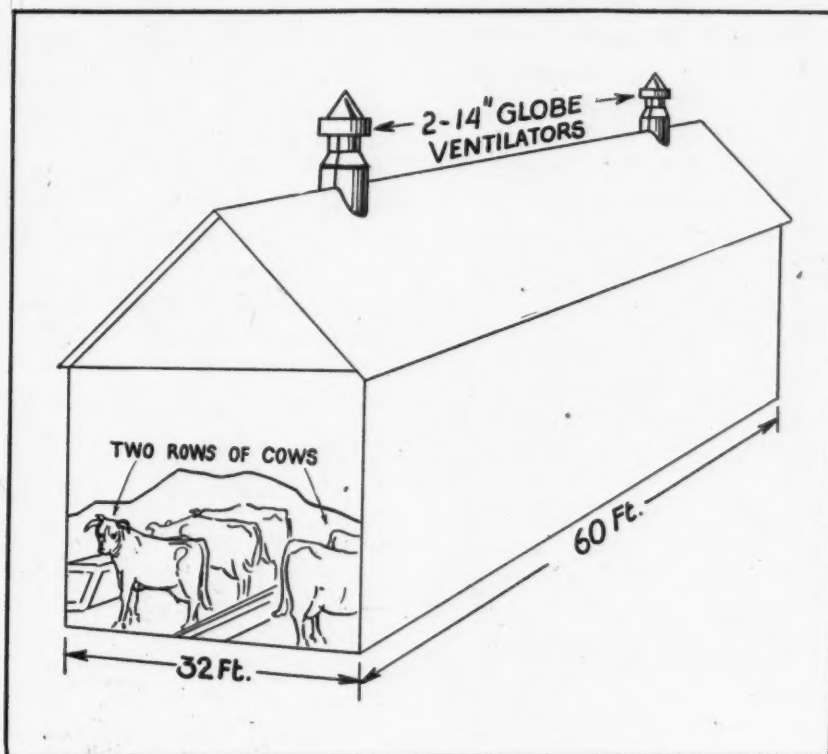
if sufficient reasons are given, taxpayers may be granted slightly additional time.

The nominal period for filing returns ends at midnight March 15 and local collectors have been instructed to examine requests for more time and grant them if they were sufficiently sound. On the final day, however, Lucas said, a tentative return would have to be filed accompanied by at least one-fourth of the tax estimated to be due. Six per cent a year, he said, would be charged on any deficiency in the unpaid installments from the original due date. The possible extensions were limited at the outset to 90 days and the usual time to be allowed was put at from 30 to 60 days.

## How Would You Solve This Man's Problem?

Martin W. Viestra of the Uxbridge Roofing and Sheet Metal Works, Uxbridge, Mass., has a problem in barn ventilation he would like to have advice on. He writes as follows:

"The barns here in Worcester county are very damp. Although I put two ventilators on the barn shown in the sketch, the barn is still so damp that water collects on the ceiling."



# Manufacturers and Jobbers Show New Equipment at Indianapolis

The exhibit of equipment held in conjunction with the annual convention of the Indiana Sheet Metal and Warm Air Furnace Association showed several new items and a decided improvement on some of the established lines. The exhibit was well attended and was always the center of interested groups. The exhibitors having booths were:

Century Heating Service Company, Indianapolis.—This exhibit was in charge of Guy Voorhees and was always the center of an interested group. A XXth Century furnace was connected with a pressure fan to show a typical fan installation. Several types of fans were displayed.

Hart & Cooley Manufacturing Company, Chicago.—A wide range of registers made up this exhibit. Registers in many colors and finishes were shown. A large display board holding a variety of pulleys, chains and furnace accessories made by the company hung on the wall. Fred Heads and Art Glessner were in charge of the booth.

London Furnace Company, London, Ohio.—This company had one of their "3 in 1" hollow center radiator steel furnaces without the casing set up and supplied all inquirers with literature describing the line. Tom Pearson answered visitors' questions.

Lennox Furnace Company, Marshalltown, Iowa.—Two sizes of Torrid Zone furnaces were displayed without their casings. In view of the interest in steel furnaces, this booth usually had a number of visitors.

Hall-Neal Furnace Company, Indianapolis.—A large size Victor furnace in its casing stood in this booth. An unusual feature of the furnace was the use of an aluminum colored front. Probably because of

interest in color in the basement, this display created some comment. Visitors missed Charley Hall, who was ill at home.

Paul R. Jordan & Company, Indianapolis.—The Jordan company showed four styles of ventilators—a large one, about 36-inch, and three smaller ones. All the ventilators were welded and painted gray. Mr. Jordan, executive secretary of the association, was in attendance and usually had an interested audience.

Wise Furnace Company, Akron, Ohio.—The only object in this booth was a huge copper owl with blinking eyes connected to the light circuit.

Follansbee Brothers Company, Indianapolis.—This company displayed a variety of calendars and catalogues on their furnaces and supplies for sheet metal contractors. Salesmen were in attendance to give out literature.

Tanner & Company, Indianapolis.—Several pieces of shop equipment were included in this display. A shear and a corrugating machine were always the center of interested men. As a new feature of this exhibit a very small A-C booster fan, enclosed in its metal box, was on display.

The Capitol Furnace & Stove Repair Company, Indianapolis.—A number of furnace parts were displayed in this booth. A. C. Selvig was in charge.

The Minneapolis-Honeywell Regulator Company, Minneapolis.—The main attraction in this display was two "Junior" regulators. This Junior model is a new unit in the line and sells for \$35.95. Inasmuch as heat control is becoming an accepted part of home heating equipment, this low-priced regulator attracted unusual interest. Messrs. Slosson and Stark stated that sev-

eral dealers placed their orders for this equipment.

W. E. Lamneck Company, Columbus, Ohio.—One furnace and a variety of pipe units and registers made up this display. The registers were presented in a variety of patterns and finishes. The different styles and types of pipe sections were much in demand. Art Lamneck was in charge and delivered his usual spirited talks.

Standard Metal Company, Indianapolis.—Several pieces of shop equipment such as a punch, crimper and a portable drill were displayed. The portable drill proved especially attractive and was continually being handled by visitors. Harry Jones, ably assisted by West and Schmidt of his company, had his hand in much of the meeting.

Tuttle & Bailey Manufacturing Company, Chicago.—A wide range of registers in sidewall, baseboard and floor types was displayed. The newest styles and finishes were exhibited and these proved an attraction to visitors. Emphasis was placed on the new face patterns and colors now ready for dealers. Dave Farquhar and Tom Maddox were present to take orders.

Motor Wheel Corporation, Lansing, Mich.—This company's new Furbrow, centrifugal type blower, operating with a motor, was displayed. The booth also contained a Piatt oil burning furnace. This combined exhibit was one of the most popular in the entire convention. The furnace unit is exceptionally small in size and the oil heating unit built into the furnace attracted much attention because of its simplicity and neatness.

The Beckwith Company, Dowagiac, Mich.—Two furnaces, one a cast iron and the other a steel furnace, were displayed.



## Winker Got \$321.55 for Our Furnace Job— How Much Did You Get?

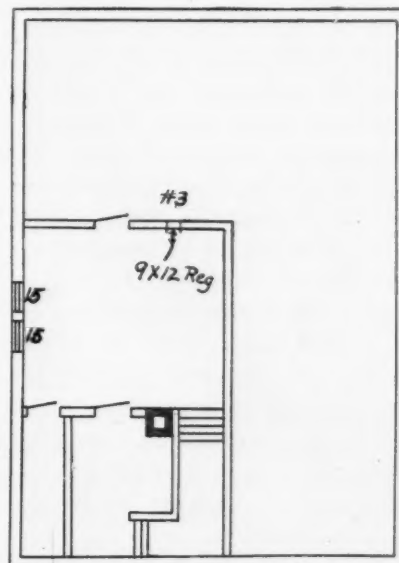
*There seems to be a wide difference throughout the country in the closeness of figuring attained by contractors operating in the same community. We know of some communities where three contractors, using standard code, will vary less than \$10 on a \$300 job. We also know of communities where three contractors will vary \$60. We will publish your heating job estimate and invite other figures, if you send in your problem.*

In our issue of November 30th there appeared an article entitled "Know How to Apply Standard Code?" In this article there was presented a complete layout for a dwelling, giving dimensions of

rooms, glass and wall areas and all other data required in applying the Standard Code.

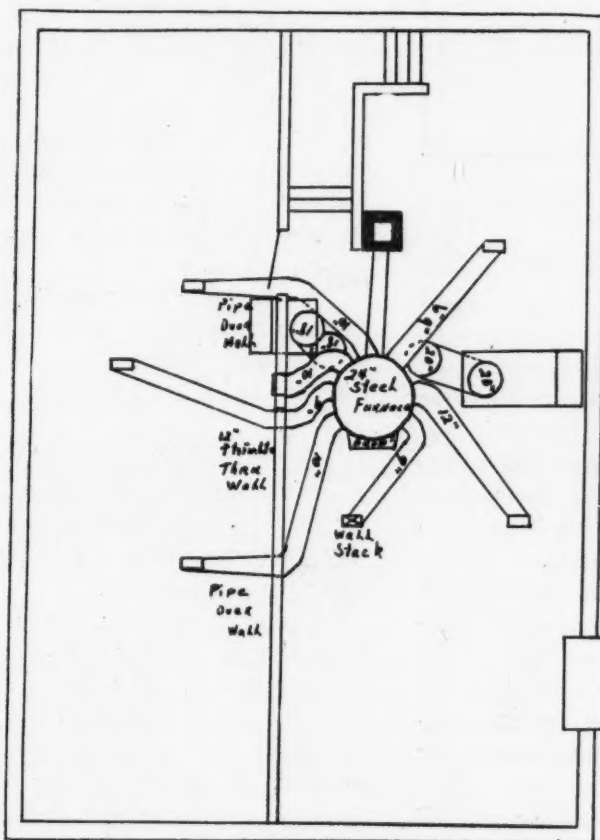
This information, together with the plans, was presented in order to give the reader an opportunity to test his knowledge of the Standard Code. Readers were asked at that time to work out a solution in their own way and present the drawings to us for publication.

E. W. Winker, secretary of the Monarch Sheet Metal Works, Belleville, Illinois, sent in the accompanying set of plans, showing his method of arranging the job. Mr. Winker also states that his estimate on the job in his section of the country is \$321.55. He states that this figure would give the firm a fair margin of profit over the material, labor and overhead expense.

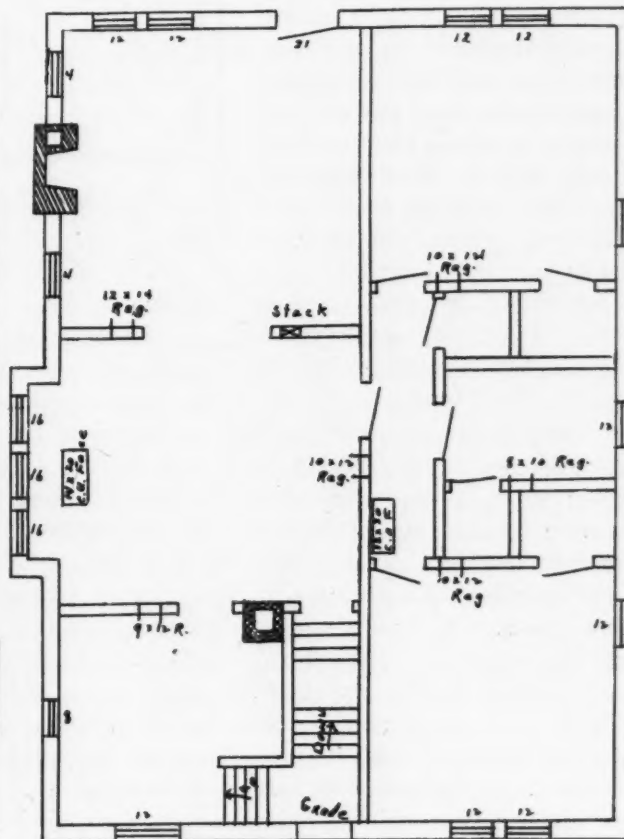


Second Floor Plan

We would like to see others work out the problem and submit their selling price.



Basement Plan



First Floor Plan

# Progress Development In Home Heating

Uses for sheet metal have increased so rapidly that the last few years have seen a most unusual rise of sheet metal products in all lines of factory, field and fireside products. Machinery, furniture, building materials, autos, tractors, and quantities of other products are being invented and put upon the market almost daily. We sleep, sit, eat, work, and are carried to our last resting place on sheet metal. What more can you wish? Truly the sheet metal men have a right to face the new year with the greatest optimism.

But what can I say to your brethren in the heating and ventilating game? Possibly I should leave out the word "ventilation" altogether. Ventilation has come to be the storm-center of the heating engineer's work. Since the appearance of the report of the New York Commission on Ventilation, many theories are advanced and a variety of practice is noted, from the open window with no fan to the most complicated forced-air washing and distributing system. In the days gone by we used to "ventilate"; now we "condition" the air. Then we felt the "outside air" was the standard and talked of quality and purity. Now we talk of comfort—temperature, humidity and air movement.

A recent method of vitalizing the air was by the injection of ozone and some splendid results seem to have been obtained. This method is now quite largely used in the St. Louis schools. The latest theory in vitalizing the air is by "ionization," and the theory sounds very good. With all these counter-winds blowing it may be a long time before we make port. In the meantime, talk as we may, we are still ventilating our buildings with large quantities of outside air. And let us make no

mistake on this point: as a health giver, good old outside air is hard to beat.

Now, just what has been accomplished in heating, and in what direction are we tending? In this line our progress has been substantial, although not striking.

In gravity hot water heating fundamentals have changed but little. We are, however, tending towards higher pressures and temperatures, with reduced radiation and pipe sizes. Forced hot water heat-

*Professor J. D. Hoffman, Purdue University, has made a hobby of warm air heating for homes. In his address before the Indiana Sheet Metal and Furnace Conference he outlines the developments which have taken place recently. His talk contains points which any progressive warm air furnace man can use to build up a powerful sales argument for warm air.*

ing (usually in districts) has largely given way to steam.

Steam heating is tending toward lower pressures; light, tubular, water type exposed radiation, connected top supply; fin-type enclosed radiators; fractional control at the radiator inlet and at certain important points on the supply main; thermostatic control at radiator outlet on moderate-to-large systems; zoning system; unit heaters.

Electric heating from centralized service station is coming in some places. Resistance coils in large tanks of water heat the water on off-peak hours. This water is circulated through heating system for heat.

In warm air heating the fan coil system for medium-to-large plants are much as they were years ago,

with minor modifications, such as different methods of entering the air and removing it from the rooms, and different methods of cleaning and moistening the air. The unit heater, a miniature fan-coil system, is coming into favor. Fan furnace systems, for medium sized plants, have changed little except in methods of regulation and in style of fan used.

Warm air furnace heating, which a few years ago was as a private in the rear rank, has now risen to one of the commanding positions.

The influences which led to this advancement were:

(a) Men who had faith in the principles of warm air heating and were willing to invest some money to prove that faith.

(b) The Research Laboratory and residence, a veritable mine of scientific information on warm air furnace heating.

(c) The Standard Code, a compilation of facts derived from the experimental data obtained from the Research Laboratory and residence. Its best influence with the trade is its definiteness.

The Standard Code probably had much to do with the development of "Certified Heating," now being tried out in New York State.

*(Concluded from page 21)*

The first prize in the contest was for a sink with one basin, supported only from the wall, with drawers under the drain boards.

In some of the new homes the metal sink is set over the radiator or other fixture. For the average home the simple sink with one or two basins is being found the most practical. These can be hung from the wall and can be equipped with additional features, such as drawers and sliding trays, if desired.

# Keeping Display Windows Free From Frost

**Y**OUR show window is probably the most valuable space in your store. But if it is covered with frost or steam, it is worthless to you. How, then, can the glass always be kept so clear and bright that passersby can see what you have on display? In his book on "The Art of Window Decorating" Lewis A. Rogers says: "There is only one right way to keep windows from frosting, and that is through proper drainage and ventilation, and this is taken care of perfectly by the modern method of construction." He points out that there are several all-metal display window sashes that serve this purpose well, according to the Wisconsin Retail Bulletin, published by the University of Wisconsin.

Ventilating the Show Window. "First and always," says A. N. McDonald, of the Detroit Show Case Company, "the temperature inside of a show window must be kept the same as the temperature of the outdoors. If this is done, you will never have steamed or frosted windows.

"There are a great many ways of ventilating show windows, the most popular being to set the plate glass in what is known as ventilated metal sash. This sash in almost every instance is constructed to let the cold air from the outdoors into the show window proper at the bottom of the plate glass; then the warm air inside goes out through the ventilation holes at the top of the plate glass."

Making the Backing Air-tight. "If you let the warm air from the store proper into your show window," Mr. McDonald continues, "when it comes in contact with the cold plate glass the window will steam and frost, just the same as when you blow your breath on a looking glass. To keep out this warm air, therefore, it is necessary that the window be separated from

the rest of the store by an air-tight show window backing."

Dust and Dirt. But when you have ventilation from outside, you also have dust and dirt from the street. "That is why," says Mr. McDonald in his letter, "all ventilating systems of show windows are figured out so as to take in just enough ventilation to keep the windows clear under ordinary conditions and not let in any more dust than is necessary."

Hidden Difficulties. Even though the show window many have venti-

## SHOW YOUR WARES

*No merchant can sell his wares if the public can't see them. If you have ever tried to sell a furnace from a catalogue you know the truth of this statement. Furnaces of sheet metal units displayed on the floor of the shop are all right.*

*But a good window display will catch the eye of the passerby and remind him of work he needs done. If you have a photograph of a window display you think is good, send it in. We will publish it.*

lated metal sash and an air-tight backing, frost may form if some simple precautions are neglected. If the window is heating up faster than it can be kept cool by ventilation, "you will usually find (we quote again from Mr. McDonald) that a steam radiator has been placed so close to the show window backing that it is heating the window. Often you will find a heating device of some kind under the show window platform; sometimes you will find a furnace or steam pipes in the basement close to the show window platform. These things, either singly or collectively, tend to heat the window. If heating pipes must be

placed under the show window platform, they should be thoroughly insulated with asbestos. If any heating device is so located that it might affect the temperature of the show window, a metal shield should be placed above it or behind it, to send the warm air out into the store, thus keeping it from coming in contact with the show window floor, platform, or bulkhead."

When Proper Construction Is Not Possible. In Mr. Rogers' book, to which we have referred previously, the statement is made that "if a new store is being built, the cost of installing the right kind of window is no greater than it is to put in the old-fashioned kind. If it is a matter of remodeling, the added efficiency will offset the cost." But none of the suggestions that we have already quoted are likely to be of much help to a merchant who is renting his store from a "tight" landlord, nor to the retailer who owns his store but cannot conveniently raise the money to make changes in the construction of his show windows. Under such circumstances, other plans must be used. A few that have come to our attention are explained below. We shall be glad to have our readers inform us regarding other workable devices.

The Use of Chemicals. Lewis Rogers says that when windows are of the boxed-in type it is easy to prevent fogging by placing in the window a flat glass or porcelain dish which contains calcium chloride. This chemical rapidly absorbs the moisture from the air and thus prevents it from forming "fog" on the glass. Every few days the calcium chloride should be removed from the dishes and thoroughly dried. It can then be used again.

If the show windows are open to the store proper—if there is no show window backing—a thin layer of

(Continued on page 31)



# New Ideas—Their Cost and Worth

Progress by either employer or employe can only be made at an expenditure of effort. One of the temptations which besets all human beings is to take it easy, to go on day after day doing work in a routine, almost mechanical manner, without much thinking about it or about the results. It is inevitable that individuals fall into a rut. This gives an opportunity for those who are doing the planning and thinking to outstrip them.

All achievements worth while are accomplished only after the most careful planning. The most successful business enterprises of the country are those which operate on a well defined policy. This means that one or more individuals have carefully planned just how that business is to be operated.

An individual works out an idea as a result of thinking; he puts it into action and obtains certain results. The logical sequence of events then is thinking or planning, action, results.

Some men carry on their business in an automatic way. They do a minimum of thinking or planning and consequently results from their activities are at a minimum. These are the men who are in a rut; they make little progress. They fail for the simple reason that they do not do the planning that they should.

Under existing conditions in the sheet metal and furnace industry there is need for a great deal of constructive thinking by shop owners. There is a great deal of talk about increasing competition, but the percentage of those who have been able to think out ways and means of successfully meeting that competition is lamentably small.

The man who will keep his eyes open will obtain a great many ideas from observing the business methods followed by others, including

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*Too Many Sheet Metal Contractors and Warm Air Furnace Dealers Are Working in a Rut. The Value of Time Out to Think and Plan Are Here Presented as Extracted from the Address of E. A. Scott at the Indiana Sheet Metal and Furnace Contractors' 1930 Convention.*

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men in other lines of business. He will often find that some of the things which the grocer, the department store, the plumber, the garage man or other tradesmen do to get business can be applied successfully in his own line.

He will also derive many helpful suggestions in associating with fellow sheet metal contractors and furnace dealers and discuss business problems with them. The salesmen who call on him comprise one of the best sources of supply of helpful ideas that a shop owner may hope to find anywhere.

In former years the manufacturer's catalog and advertising space were devoted to telling prospects of the merits of the products being advertised. They were all written from the selfish viewpoint of the manufacturer. Today you will find that many manufacturers are using this same space to place before the trade informative and helpful material.

One of the large manufacturers of ventilating equipment is using neither illustration nor text to elaborate on the merits of its fan in its advertising in the trade journals. Instead, it devotes the space to offering a complete sales and advertising plan for ventilating contractors. In other words, this manufacturer is advertising the fact that it has prepared for the use of ven-

tilating contractors ready-to-use, business-getting suggestions in the form of advertising matter, circular letters, etc.

For ideas on the correct methods of doing work, there are many text books available at a nominal cost. The new book of the Trade Development Committee, "Standard Practice in Sheet Metal Work," is an outstanding example of the small cost at which priceless information is available at the sheet metal shop. Here is a book in which can be found details on the best methods of doing all kinds of architectural sheet metal work. With this book available, no shop owner has any excuse for wasting time figuring out how to do work. It is all carefully presented in this book.

But unfortunately many shops do not get any of this help. The sad part of it is the reason for their not getting it. It is not a question of the financial cost, but rather of effort to read, study, to think and to plan.

That is so often the drawback to progress, not with sheet metal contractors and furnace dealers alone, but with business men in general. They think they are so busy taking care of daily routine work that they do not get away from their business long enough to think about it with a view to finding out what they can do to make for progress. No man can get ahead unless he gets some new ideas now and then, and no man is going to get very many new ideas unless he sets out to obtain them in a logical manner by consistently thinking and studying with that end in view. It is not easy, for it is human nature to get into a rut. It is not something that money can buy. Results can only be had by personal and diligent effort. But one of the most difficult things which the average man has to do is

to force himself to drop routine matters regularly and do a little analyzing of his business and plan how he can accomplish more.

He should have something like the common railway crossing sign placed conspicuously in his office. Instead of "Stop, Look and Listen" he might well have the sign before him, "Stop, Think and Plan."

(Continued from page 29)

glycerine applied over the entire surface of the glass, on the inside, will prevent drops of vapor from forming on the window.

**The Use of Electrical Devices.** An electric fan, preferably of the oscillating type, may be run in the show window. The circulating air absorbs a great deal of moisture that would otherwise form on the glass. This plan is, as a rule, only partially successful.

A German device is said to have met with much success, both abroad and in this country. It is a long metal tube, which is placed horizontally near the bottom of the glass, on the inside of the window. Small brackets hold it in place. Inside the tube are heating elements, while a cord connects the instrument to any electric light outlet. The cold air is drawn up into the tube through small holes in the bottom. When this air becomes warm, it passes out of the top of the tube through larger holes. The warm, dry air rises to the top of the glass, keeping the window free from frost.

(Continued from page 18)

tended. During the dinner the guests were entertained by a lively and well-given program of dance music. The dance after the dinner was well attended and enjoyed.

### The Fur-Mets

The auxiliary of the Indiana association is called the Fur-Mets. To them is entrusted the task of arranging the social affairs of the convention, and a good job they have done of it. Like the association, a new set of officers is elected each

year. The officers for 1930 are as follows:

President—L. A. Cooper.  
First vice-president—C. L. Sapp.  
Second vice-president—O. A. Nichols.  
Third vice-president—W. R. Lawson.  
Fourth vice-president—G. C. Joslin.  
Secretary—Harry Jones.  
Treasurer—John C. Henley.  
Directors—Fred S. Boone, F. A. Wilkening, Jere Doherty, O. D. Anderson, W. P. Meador.

### Langenberg Co.

#### Elects Officers

At the annual meeting of the board of directors of the Langenberg Manufacturing Company, held January 29, 1930, George F. Langenberg, the former president of the company, retired from active management and assumes the new office of chairman of the board.

The following officers were elected:

E. B. Langenberg—President.  
J. J. Walsh—Vice-President.  
G. L. Kleeber—Secretary and treasurer.  
A. L. Walters—Sales manager and chief engineer.

### Exhibitors at

#### Heating and Ventilating Exposition, Philadelphia

Allen Air-Turbine Ventilator Co., Detroit, Mich. Automatic ventilators.  
American Brass Co., Waterbury, Conn. Everdur metal, Anaconda brass pipe, copper tubes and sheet copper.  
American Oil Burner Association, New York.  
American Warming & Ventilating Co., Elmira, N. Y. Direct-fired warm-air heating systems.  
Automatic Burner Corp., Chicago, Ill. ABC oil burner products.  
Beckwith Co., Dowagiac, Mich. Beckwith warm-air heating systems.  
Carrier Engineering Corp., Newark, N. J. Carrier air-conditioning equipment.  
Century Electric Co., St. Louis, Mo. Century electric motors and fans.  
Century Engineering Corp., Cedar Rapids, Ia. Century fuel Oil Burners.  
Columbia Burner Co., Toledo, O. Columbia conversion gas burners for domestic use.  
Abram Cox Stove Co., Philadelphia, Pa. Novelty furnaces.  
Crystal Oil Burner Corp., New York. Crystal oil burners.  
Domestic Stoker Co., New York. The Electric Furnace-Man, an automatic coal burner.

Draft-A-Justor Corp., Chicago, Ill. Draft-A-Justor draft regulators.  
Electrol, Inc., New York. Model TU Electrol oil burner, new model A burner for small homes.  
Emerson Electric Mfg. Co., St. Louis, Mo. Furnace fans.  
Fluid Heat, Inc., Baltimore, Md. Domestic oil burners.  
Fowler Oil Burner Co., Worcester, Mass. Fowler range burners, stove heaters and automatic oil burners.  
General Iron Works Co., Cincinnati, O. "Hot-Kold" gas-fired system of heating.  
Germer Stove Co., Erie, Pa. Warm-air furnaces.  
Hardinge Bros., Inc., Chicago, Ill. Hardinge fuel-oil burners in operation.  
Hart & Crouse Co., Utica, N. Y. Hart & Crouse, Royal garage heater.  
E. Vernon Hill Co., Chicago, Ill. Pitot tubes and gauges, filter gauges, carbon-dioxide test set, anemometers, dust counters, instruments for determining humidity, thermometers.  
W. F. Hirschmann Co., Inc., Buffalo, N. Y. Ventilating equipment.  
International Burners Corp., New York. Calorol, Crescent and Victory oil burners.  
International Heating Co., St. Louis, Mo. Oil burners and heating equipment.  
Iona Ventilator Co., Inc., Philadelphia, Pa. Automatic ventilation equipment.  
Kelsey Heating Co., Syracuse, N. Y. Kelsey-Bradley Conditionaire warm-air generator.  
Langenberg Mfg. Co., St. Louis, Mo. Front Rank air-conditioning heating systems.  
Linde Air Products Co., New York. Welding demonstration.  
McIlvaine Burner Corp., Evanston, Ill. McIlvaine oil-burning equipment.  
May Oil Burner Corp., Baltimore, Md. Quiet May automatic oil burners.  
The Mercoid Corp., Chicago, Ill.  
Meyer Furnace Co., Peoria, Ill. Weir (steel) warm-air furnace.  
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Unit heater and sectional control systems, motorized valves, relays, oil-burner and stoker controls.  
Mineral Felt Insulating Co., Toledo, O. Mineral Felt insulating products.  
Motor Wheel Corp., Lansing, Mich. Four units consisting of one furnace; four space heaters.  
Motorstoker Corp., New York. Automatic stokers.  
L. J. Mueller Furnace Co., Milwaukee, Wis. Gas-Era gas-fired furnaces.  
National Warm Air Heating Association, Columbus, Ohio. Printed matter on research activities, etc.  
National Regulator Co., 2301 Knox Ave., Chicago, Ill. Temperature regulators.  
Pennsylvania Furnace & Iron Co., Warren, Pa. Pennsylvania gas furnace for house heating.  
Rawlplug Co., Inc., New York. Rawlplugs, Rawldrills and Crowners.  
Richardson & Boynton Co., New York. Richardson & Boynton warm-air heaters.  
H. H. Robertson Co., Pittsburgh, Pa. Robertson stationary roof-type ventilator.  
George D. Roper Corp., Rockford, Ill. Roper gas-fired warm-air furnace.



## NEW ITEMS *and* NEWS ITEMS

### *From and about the Manufacturers and Jobbers*

#### **Ryerson Completes Large Expansion Program**

A new heated building with increased facilities for storing and dispatching has been completed recently by Joseph T. Ryerson & Son, Inc., 1600 East Euclid Avenue, Detroit, Mich. This addition marks the fourth large expansion program of the Ryerson company during its twelve years of steady growth in the Detroit area.

The new unit is 120 by 300 feet, including five bays and a large transfer bay at one end with facilities

for combination loading. The floor of the building is on the same level as the railroad car floor, thereby forming a dock at the railroad tracks which simplifies the moving of material to and from the cars.

All kinds of sheets, Allegheny Metal, Ascoloy, hot and cold rolled strip steel, bands, and other high grade steels which require exceptional care will be stored in this 36,000 square feet of heated warehouse space. Unit heaters are installed to circulate the heat and maintain an even temperature

another floor to the present structure and enclosing the open span.

In addition to the Detroit unit, the Ryerson company is serving eight other industrial centers, with plants at Chicago, St. Louis, Cincinnati, Cleveland, Buffalo, Philadelphia, New York and Boston.

#### **"Garbador," a New Garbage Receiver**

The "Garbador," an underground garbage receiver recently put on the market by the Miami Cabinet Company, of Middletown, Ohio, is arousing not a little interest and attention, as it makes its appearance before the public.

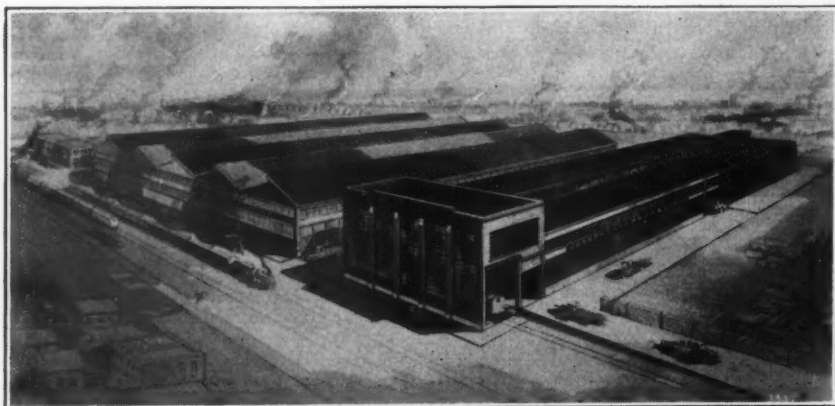
The "Garbador," as it is known on both the retail and wholesale market, is designed to eliminate all of the disagreeable and unsanitary features connected with the ordinary method of garbage disposal.

The product has been given the endorsement of the city health officials and those in other cities in this vicinity who are enthusiastic over its possibilities for the promotion of better health and sanitary conditions in Middletown.

It is significant that nearly all the materials entering into the manufacture of the "Garbador" are made right in Middletown. The cover and rim are cast semi-steel and are made in the Keuthan Foundry. The outer drum is Armco ingot iron.

The use of these receivers has become widespread within the past few years with the marked emphasis on beautification of the lawn and with full realization of the undesirable features attendant upon the old-fashioned, unsightly garbage can standing above the ground.

Charles Keuthan, long Middletown resident, is president of the company manufacturing the new product, and C. R. Miller, formerly



An artist's drawing of the Ryerson plant showing the new addition.

ties for the inside loading of freight cars. Five cranes will move material from all parts of the building to the transfer bay, where another crane loads it onto the cars. This equipment, built for both large capacities and greater speed, facilitates dispatching of rush shipments.

Extraordinary truck loading facilities are provided by a driveway through the center of the building. This driveway is 20 feet wide and permits the loading of five trucks, one under each of the five cranes all at the same time. Trucks are also loaded under the crane in the transfer bay. Industrial tracks, paved into the driveway in the transfer bay, enable the transferring of stock from this building to any part of

throughout the building at all times of the year.

Excellent facilities are available for customers who wish to call for material, an entire span in the new unit being devoted to this service. Pick-up orders are followed through by a separate office and plant force to prevent confusion with delivery orders. In this way an unusually prompt service is maintained in supplying customers' trucks.

With a view towards future expansion, the Ryerson company has ground space reserved to give an ultimate 110,000 square feet of added space. Of this amount, 67,500 square feet is partially developed and may be readily acquired as heated warehouse area by adding



connected with the Miami Cycle & Manufacturing Company, is vice-president and general manager.

#### **Rudy Furnace Company Announces New Line of Gas Fired Furnaces**

The Rudy Furnace Company, Dowagiac, Mich., recently started production of an entirely new line of gas fired warm air furnaces. This line will be known to the trade as the Rudy Bon-Air Gas Furnace.

The engineering and research departments of the company have invested more than five years of intensive experimentation in the development of this line of gas furnaces. The result is a product with some new and distinctive features, providing more comfort and convenience for the ultimate user or home owner.

Operation of the heater is entirely automatic, the thermostatic controls being of approved standard design.

An outstanding feature is the noiseless operation of the burner. Regardless of the kind of gas used, the opening and closing of the gas supply to the burner is accomplished without the slightest indication of a flashback or explosion. This is accomplished by a patented primary air control.

The lines of the castings are in parallel with the air stream, flowing through the casing, eliminating frictional resistance and allow the greatest possible head, thus insuring a satisfactory flow through the system.

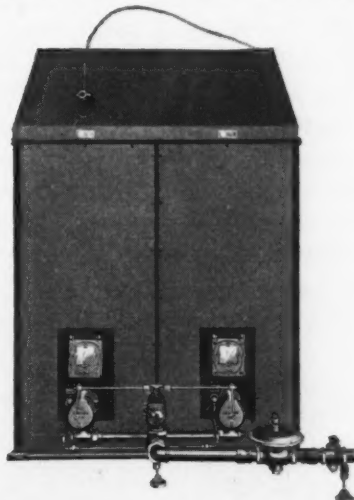
The baffling of the flow of hot gases to the final outlet causes them to follow a zig-zag, horizontal course through the furnace to extract all the heat possible and not interfere with complete combustion.

The casing has two radiation shields, maintaining a double air space through which air streams flow, thus adding many square feet of secondary radiating surface. Without the aid of insulating material the outside of the heater is kept at basement temperatures.

The heaters are made in units and are of cast iron construction. The

input rating is 60,000 B.t.u.'s per hour for a single unit and multiples of 60,000 for additional units which are assembled under one casing for additional capacity.

The heaters are very compact, designed for simplicity in both operation and service, and are approved by the American Gas Association.



The casing is attractively finished in two shades of green duco.

With the exception of the thermostatic controls every part is made in the Rudy plant at Dowagiac, Mich. A modern new daylight addition has been added to the already existing up-to-date Rudy factory, to be used exclusively in manufacturing gas heaters. The company is already distributing the furnace nationally.

#### **Stanley Works of New Britain Forms New Tool Company**

The Stanley Electric Tool Company of New Britain, Conn., a subsidiary of Stanley Works, is manufacturing and selling a complete line of electrically operated hand tools. The line includes drills, screw drivers, grinders, wood and stone saws, hammer and sheet metal cutting tools.

Service and sales stations are to be installed in New York, Philadelphia, Cincinnati, Detroit and Chicago.

One of the leaders of the new line is "Unishear," an electrically operated hand tool for outside and inside cutting sheet metal and sheet material of all descriptions.

#### **Reappoint Officers of J. M. & L. A. Osborn Company**

A. W. Howe was re-elected president and general manager of the J. M. & L. A. Osborn Company, January 23, 1930, at a meeting of the board of directors following the annual stockholders' meeting of that date.

The board was continued by the stockholders, with the addition of Harold J. Smith and William B. Osborn to fill vacancies.

D. A. Hossler, vice-president; W. E. Lutton, treasurer, and J. W. Harrison, secretary, continue in their respective official capacities.

J. T. Hagan was appointed general manager of sales, and John J. Koch, assistant sales manager.

#### **G. N. G. Hardware & Heating Company Formed in Sheboygan**

A new firm, the G. N. G. Hardware & Heating Company, has been organized in Sheboygan, Mich. The firm is an offspring of the H. Geussenhainer Company.

The firm is composed of H. Geussenhainer, F. Nelesen, E. Germsemeil and A. Zeinemann. All four members of the new firm have been with the Geussenhainer Company from ten to twenty-five years.

They will specialize in sheet metal work, heating, hardware and oil burners.

The new firm is anxious to receive catalogs and price lists.

#### **Hendrick Company Publishes New Grille Bulletin**

Hendrick Manufacturing Company of Carbondale, Pa., have just issued a new catalog on perforated metal grilles.

This bulletin is set up in most attractive and convenient form on enameled paper, bound in a stiff paper cover. It bears the A. I. A. file.

Standard and special designs of Hendrick grilles are shown, together with table of dimensions and all necessary information regarding these grilles.

The catalog should prove valu-

able to any contractor using this type of equipment and can be secured by writing to the company.

**James Eiseman  
Opens New Business  
in Monroe, Mich.**

James Eiseman, formerly of Floral City Heater Company, has opened a new heating, plumbing and sheet metal business at Monroe, Mich.

The name of the new company is The Custer Heating & Plumbing Company.

**Bill Amelung  
Promoted—Will Go  
to Los Angeles**

Bill Amelung has been promoted to western sales manager of the Chase Brass & Copper Company and will make Los Angeles his headquarters.

A farewell dinner was tendered Bill and Mrs. Amelung by their Detroit friends in the Italian Room of the Book-Cadillac Hotel just prior to their departure for Los Angeles. Al. Berschbach, Jr., acted as master of ceremonies, and there were about thirty couples in attendance, including Bill Busch and his cronies.

**Ben W. Mathes Goes  
with Crystal Oil  
Burner Corporation**

Ben W. Mathes has been appointed sales manager of the Crystal Oil Burner Corporation, New York City.

Mr. Mathes has been connected with the S. T. Johnson Company as a distributor and in their sales department.

**Schweinfurth of  
Mount Vernon Furnace  
Company Visits Office**

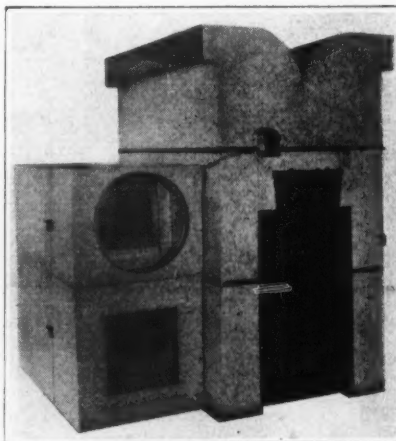
President Schweinfurth of the Mount Vernon Furnace & Manufacturing Company, Mount Vernon, Ill., and "Tommy" Thompson, sales representative of the same company, were recent visitors at our office.

The Mount Vernon company has a permanent display in the Chicago Furniture Mart. Twice a year a special showing is held for visitors. President Schweinfurth is optimistic regarding 1930 prospects.

**The Hess  
"Comfortaire"  
Unit**

To bring comfort into the home the year around—to wash, humidify and cool the air in summer—to deliver volumes of moistened, clean air in winter, is the purpose of the Hess Comfortaire, an air conditioner for the modern home. This warm air, air conditioning unit has recently been placed on the market by the Hess Warming & Ventilating Company of Chicago.

According to the manufacturers, the Comfortaire connected with any warm air furnace will deliver through the furnace to every room



in the house a constant volume of air warmed, humidified and washed in the winter; and in summer, using the same piping system, this unit will deliver cooled, moist, conditioned air, greatly increasing home comfort and health.

The Comfortaire is a completely assembled air washing and humidifying unit. Placed beside the furnace, it is ready to connect with the electric circuit. A wire mesh covered cylinder slowly revolves, dipping into a pan of water and picking up this water in the meshes. The forced blow draws great volumes of air through two thicknesses of wire mesh, breaking down the water film and passing the air for distribution to the furnace pipes. Dirt and dust in the air are deposited in the pan, which may be cleaned out at intervals.

An automatic check valve furnishes fresh, clean water as the water is evaporated into the air.

Thus the air, in addition to being washed, is humidified for health and comfort. A metal housing encloses the complete unit, and all parts are easily accessible through two large doors. The Comfortaire is a complete unit in itself and comes ready for connection to any furnace.

**T. J. Bertin and A. C. Tinker  
Form New Heating Firm  
in Youngstown, Ohio**

Knowledge acquired through years of experience in the heating trade is now available to Youngstown, Ohioans, through the service offered by T. J. Bertin and A. C. Tinker of the T. J. Bertin Furnace Company, 524 Park Avenue.

This company is an amalgamation of the Liberty Specialty Company, formerly of Conneaut, Ohio, and the J. T. Bertin Company of Youngstown. The amalgamation was made effective last December.

One of the first innovations made by the new company was a study of heating conditions in the Valley, where some 350,000 people live. They found the opportunity for first class heating service practically unlimited.

The Republic Iron & Steel Company is beginning a program of burning coke under the slogan of "Clean City," and have interested the Federation of Woman's Clubs in the program. Coke has an effect similar to anthracite coal on the operation of the furnace. Many people are learning that they cannot burn coke in antiquated plants without serious harm and poor service.

Mr. Tinker is a member of the National Warm Air Heating Association and has specialized in home heating for the past 15 years.

Mr. Bertin, general manager of the company, has also been in the furnace business for many years, having started as an apprentice in Williamsport, Pa., when he was but 15 years of age. He advanced rapidly and came to Pittsburgh. Following his acquisition of the tricks of his trade in Pittsburgh he came to Youngstown and worked as a foreman in the employ of the Youngstown Furnace Company.





## ASSOCIATION ACTIVITIES

### Cliff Herrendeen Elected President of the Grand Rapids Association

At a business meeting of the Grand Rapids Sheet Metal and Heating Engineers, held at the office of Chas. Alexander Company, Cliff Herrendeen was unanimously elected to lead this highly successful association for 1930. He will be ably assisted by practically the same officers that acted under ex-President Ike Lammers, the only other newly elected officer being Pete Wierenga, who succeeds Cliff as vice-president. Henry Delnay, secretary, and Frank Oole, treasurer, were re-elected.

Frank Dykema, guest at the meeting, outlined the activity of the Allied Construction Industries of Grand Rapids to date, and very cleverly broke the news that it had developed to the point of actively soliciting members. As usual Frank had a goodly supply of application blanks at hand and about ten of those present signed up immediately. It is hoped that every member of this group eventually joins and we are certain that they will.

Following the election, Cliff was conducted to the chair by Ike Lammers, who turned over the gavel and wished Cliff all the success in the world. At this point Gus Ederle was called upon, and on behalf of the members presented Ike with a fine golf bag and a brassie driver, in token of his faithful service as president during the past year.

### Pennsylvania Sheet Metal Contractors' Association Convention

The annual convention of Sheet Metal Contractors' Association of Pennsylvania will be held at Beaver Falls, Pa., on February 18, 19 and 20, 1930. Registration will open on the 18th at General Brodhead Hotel.

The first day will be given over

to an address of welcome by Hon. William Levis, Mayor of the city; reports of nominating committees and general discussion. These will be followed by reports of standing committees on activities during the past year.

On the second day, J. E. Merrick, national president, will address the convention on "Sound Business Practice for Sheet Metal Contractors." J. C. Miles, vice-president of the Warm Air Furnace Fan Company, will present a paper.

Other papers to be presented on this day will be:

"Better Business and More of It for the Heating Contractor," by Jack Stowell.

"Standard Practice in Sheet Metal Work" by W. C. Markle, national secretary.

Nomination and election of officers for Distributors' and Salesmen's Auxiliary, Sheet Metal Contractors' session and reports of committees will close the convention on Thursday, February 20.

### Bill Busch Re-elected President of the Detroit Association

At the annual meeting of the Detroit Sheet Metal and Roofing Contractors' Association, held Thursday night, January 9th, at the Prince Edward Hotel, Windsor, Ontario, our good friend, the dynamic Bill Busch, was again elected president of this organization for his fifth consecutive term.

The meeting opened with a fine dinner, during which Al Bersbach led community singing. This was followed by a round table introduction before calling the business meeting to order.

The chairman of the nominating committee was called upon for his report, which was as follows: President, William W. Busch; vice-

president, Tom Marshall; secretary, Bill Rettenmeir; treasurer, Arthur Marx; directors, William Sullivan and Robert Candler.

### Cincinnati Sheet Metal Association Holds Annual Election

Members of the Cincinnati and Vicinity Sheet Metal Association, together with the Jobbers and the Salesman's Auxiliary, held their annual election of officers on January 7th. About 100 persons were present.

The election was held early in the evening and was followed by a steak dinner with all trimmings. Peppy entertainment was furnished.

Two complete tickets were presented for voting. One of the tickets was designated "Red," the other "Blue." The "Reds" won. The officers elected were:

George Dietz, Jr.—President.

C. C. Grote—First Vice-President.

Albert Kramer—Second Vice-President.

Robert Lee—Third Vice-President.

Claude Steadman—Secretary.

Walter Rectanus—Treasurer.

Harry Weber—Director.

Joseph Stermer—Director.

Ferd. Doepke—Director.

Nominating Committee—F. E. Ort, Charles Kobmann, M. A. Schneider.

A woman driver ran into an embankment and bent a fender. It worried her. She went to a garage and asked the mechanic:

"Can you fix this fender so my husband won't know how it was bent?"

The mechanic looked at the bent fender and then at her, and said:

"No, lady, I can't. But I'll tell you what I can do. I can fix it up so that in a few days you can ask your husband how he bent it."



## WHO'S WHO, WHERE!

LOS ANGELES, CAL.—The L. S. Wilson Co. has the sheet metal contract for Catholic Church at Downey, Cal.

LOS ANGELES, CAL.—The J. B. Smith Heating Co. has the heating contract for Roy D. Langdon's residence in Los Angeles, Cal.

PASADENA, CAL.—The Foss Sheet Metal Co. has been awarded the sheet metal contract for M. K. White store building.

LOS ANGELES, CAL.—The Boyle Cornice & Sheet Metal Works, 2419 Brooklyn avenue, has engaged in business under management of Morris Prives and Jacob Izen.

CUMBERLAND, MD.—The N. & G. Taylor Co., Inc., has been chartered with a capital of \$700,000, to manufacture black plate and tin sheets, and other metal products.

DYERSBURG, TENN.—R. H. Vandervelde & Co. has the roofing and sheet metal contract on Eastern State Normal School & Teachers College in Morehead, Ky.

SAN FRANCISCO, CAL.—The Exchange Sheet Metal Shop has been opened at 989 Golden Gate Avenue.

PORTLAND, OREG.—The Arrow Sheet Metal Works has sold a half interest to the Morton Roofing Co.

SALEM, OREG.—Nelson Brothers, Inc., engaged in the sheet metal business, has increased its capital stock to \$54,000.

TUCSON, ARIZ.—The Tucson Agency of the Storm Proof Metal Weather Strip Manufacturing Co. of Hollywood, Cal., has been opened at 237 East Congress street, under management of Z. P. Lee.

GREEN BAY, WIS.—The Northern Corrugating Co. has been awarded the metal door contract for Union Grove Congregational Church.

MINNEAPOLIS, MINN.—Thomas Finn, 50 W. 10th street, has the sheet metal and roofing contract for city fire station.

BLOOMINGTON, ILL.—Shipment of an initial order of Oil-O-Matic Model J and Junior oil burners to Reykjavik, Iceland, is announced by C. U. Williams, president of the Williams Oil-O-Matic Heating Corporation, Bloomington, Ill.

DETROIT, MICH.—Clifford Maskell has recently opened a sheet metal and hardware store at 16032 Harper avenue.

MEADOW, S. D.—H. M. Akarie, formerly with the Meadow Hardware Co., has opened a furniture repair and tin shop at Hettinger, N. D.

SEATTLE, WASH.—The Penn Sheet Metal & Roofing Co., 550 Denny street, has the sheet metal contract, and the Puget Sound Sheet Metal Works, 3631 E. Marginal Way, the contract for tanks for storage plant of Gilmore Oil Co.

OWATONNA, MINN.—The King Ventilating Co., North Cedar street, is about to begin erection of a 2-story 70x72 ft. addition to its ventilating apparatus factory.

LADYSMITH, WIS.—The Sands Hardware Co. has the sheet metal, heating and plumbing contract for store building of National Tea Co.

ST. PAUL, MINN.—The Moeller Metal Works, 1910 University avenue, has been awarded the roofing contract for post office building in Oshkosh, Wis.

WATERLOO, IA.—The L. E. Glaze Furnace & Sheet Metal Works, 811 Commercial street, has the heating and plumbing contract for electrical supply warehouse of the Julius Andrae & Sons Co.

The Mohlist & Braudes Sheet Metal & Furnace Works, 728 Sycamore street, has the heating contract for residence of Chas. J. Beckman.

SAN FRANCISCO, CAL.—The Fire Protection Products Co., 1101 16th street, has been awarded the sheet metal work for \$250,000 warehouse of Western Sugar Refining Co.

PALO ALTO, CAL.—The Palo Alto Sheet Metal Co. has the heating contract for residence of Prof. H. W. Stebbins.

CHICO, CAL.—The Nichols Hardware Co. has the sheet metal contract for school building at that point.

SAN FRANCISCO, CAL.—Morrison & Co., 74 Duboce avenue, have the sheet metal contract for American Trust Co. building.

MORGAN, CAL.—The L. S. Wilson Co. has the sheet metal contract for residence of Mrs. May K. Rindge at Rancho Malibu.

LONG BEACH, CAL.—The McCloskey Sheet Metal Co. has the sheet metal contract for apartment building of N. C. Buckman.

The East Anaheim Sheet Metal Co. has the sheet metal contract for apartment building of Monarch Construction Co.

WATERLOO, IA.—The Waterloo Metal & Manufacturing Co., corner Commercial and Miles streets, has the heating and sheet metal contract for residence of Jenn Fell.

KANSAS CITY, MO.—The National Air Control Co., 300 Southwest boulevard, manufacturers of air conditioning and ventilating equipment, has leased property at Guinotte avenue and Vine street for a new plant.

MONROE, MICH.—James A. Eisenman, formerly traveling salesman for the Floral City Heater Co., has gone into the heating, plumbing and sheet metal business with Carl Strong of Monroe, Mich., under the name of the Custer Heating & Plumbing Co. Their shop is located at the corner of Hubble & Third street, Monroe, Mich.



Wisconsin Sheet Metal Contractors' Association, Hotel Schroeder, Milwaukee, February 3 and 4, 1930. W. A. Belau, 317 McKinley Avenue, Milwaukee, Wisconsin, Secretary.

Wisconsin Retail Hardware Association Convention and Exhibition, Auditorium, Milwaukee, February 4, 5, 6 and 7, 1930. B. Christianson, Secretary, Stevens Point, G. W. Kornely, Exhibit Manager, 1476 Green Bay Ave., Milwaukee.

Ohio Hardware Association convention and exhibit, Columbus, February 4, 5, 6 and 7, 1930. The exhibit will be in the

new Columbus Auditorium. James B. Carson, Secretary, 315 Mutual Home Building, Dayton.

Illinois Retail Hardware Association Convention and Exhibition, Hotel Sherman, Chicago, February, 11, 12 and 13, 1930. Paul M. Mulliken, Managing Director, Elgin.

Pennsylvania and Atlantic Seaboard Hardware Association, Atlantic City, New Jersey, February 11 to 14, 1930. Sharon E. Jones, Secretary-Treasurer, Wesley Building, 17th and Arch Streets, Philadelphia.

Iowa Retail Hardware Association Convention and Exhibition, Hotel Savery and Des Moines Coliseum, Des Moines, February 11, 12, 13 and 14, 1930. A. R. Sale, Secretary, Mason City.

Pennsylvania Sheet Metal Contractors' Association, General Broadhead Hotel, Beaver Falls, Pennsylvania, February 18 to 20, 1930. Secretary, M. F. Liebermann, 1411 Merchant Street, Ambridge, Pennsylvania.

Ohio Sheet Metal Contractors' Association, Toledo, Ohio, February 18 to 20, Secor Hotel, Toledo, Ohio. Secretary, J. M. Saunders, East 22nd Street and Prospect avenue, Cleveland, Ohio.

Minnesota Retail Hardware Association, Minneapolis, February 18, 19, 20 and 21, 1930. Charles H. Casey, Manager, 2344 Nicollet Avenue, Minneapolis.

The Michigan Retail Hardware Association Convention and Exhibition, Grand Rapids, Michigan, February 18 to 21, 1930. Hotel Pantlind will be headquarters and the exhibition will be at the Klingman Exhibition Building. A. J. Scott, Secretary, Marine City.

Michigan Sheet Metal & Roofing Contractors Association Convention, Detroit, March 3, 4, 5 and 6, 1930. D. H. Ederle, Assistant Secretary, Grand Rapids, Mich.

Illinois Sheet Metal Contractors' Association, Hotel St. Nicholas, Springfield, Illinois, April 8, 9, 10, 1930. Charles L. Radtke, 1049 East 8th Street, La Salle, Illinois, Secretary.

National Warm Air Heating Association, Detroit, Mich., April 15, 16, 1930. A. W. Williams, 174 E. Long Street, Columbus, Ohio, Managing Director.

National Association of Sheet Metal Contractors, Fort Pitt Hotel, Pittsburgh, Pennsylvania, June 10 to 13, 1930. W. C. Markle, 336 Fourth Avenue, Pittsburgh, Secretary.

Agricola Furnace Co., Gadsden, Ala., manufacturer of domestic furnaces and heaters, has begun an expansion program, including one-story addition to foundry, extension to molding room of about 18,000 sq. ft., and addition to sheet metal division, to cost more than \$70,000.

Shalcross Control Systems Co., Milwaukee. Bulletin 100 of 11 pages illustrates and describes automatic furnace draft control which, it is claimed, saves 5 to 15 per cent.

# RANDOM NOTES AND SKETCHES

## Charlotte Kernchen

### Passes Away

We have just been informed of the death of Charlotte, three-year-old daughter of J. C. Kernchen, president of The Kernchen Company, Chicago.

Charlotte became ill some time ago, the illness developing into scarlet fever. She died January 29th.

Mr. Kernchen has two other daughters, one younger and one older than Charlotte. The AMERICAN ARTISAN takes this opportunity of extending its sympathy.

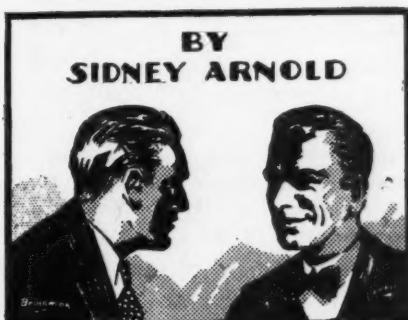
\* \* \*

Jay Barton, sales manager, Heating Systems Corporation, Joliet, Ill., paid us a short visit the other day. We missed him at the Indiana Sheet Metal and Warm Air Furnace Contractors' Association convention at Indianapolis. Quite a number of the boys there asked where he was and were told by those in the know that Jack was too busy to gallivant around the country these days. We trust that this is true and that business is as good as it is reported.

\* \* \*

Just as this issue of the magazine was going to press, Tom Pearson, sales manager of the London Furnace Company, came in to pay us a visit and (incidentally) to tell us some more yarns in that inimitable German dialect of his. Well, we had to suspend business for a time and listen.

Which recalls to mind a scene of week before last. In a darkened auditorium about 200 males were gathered to witness the convolutions of some sprightly (anyway,



they were supposed to be) damsels on the stage.

There was a great hush of expectancy.

Something was about to happen. It did.

Tom Pearson arose to address the multitude. He told about Dr. Snitzelhoffergotmituns' world famous operation on Lizzie Furnace. To tell the truth, we don't remember whether the operation was a success or not—the intimate details were so overpowering. All of which goes to show that a man can be a good sales manager and some other things, too.

\* \* \*

Irate Theater-Goer: "Usher, usher, I can't find anything about the play in this program."

Condescending Usher: "Sorry, sir, but we had to make room for two new ads."

\* \* \*

Will J. Buche, Ames, Iowa, is studying pattern drawing and making. He uses the ARTISAN as a guide and follows the pattern problems as they appear. He writes that he has not received all the copies for 1930. Which furnishes us with



a good excuse for calling the attention of Random page readers to the boxed note on the bottom of the first reading page in this issue. We like the two weeks' idea ourselves and expect the extra time between issues to allow us to get out into the field and study conditions at first hand.

\* \* \*

Landlady: "Two rooms will cost you ten dollars a week—but no cats, dogs, pianos, loudspeakers or children allowed."

Prospective Roomer: "Do you mind if my shoes squeak a little?"

\* \* \*

Sometimes we are slow in running items. In fact, we sometimes file the items away so carefully that they don't even turn up for a month or so. Such is the case of an interesting item regarding Mr. and Mrs. Jack Sauer of Peoria, Ill.

A postal card was sent in showing the aforementioned couple seated in a one-horse gig (in this case it was a one ostrich gig) way out in Pasadena. The letter which also came, and which was also well filed, said that this stop was only a part of a trip along the west coast starting at Seattle and visiting Los Angeles, San Francisco and elsewhere.

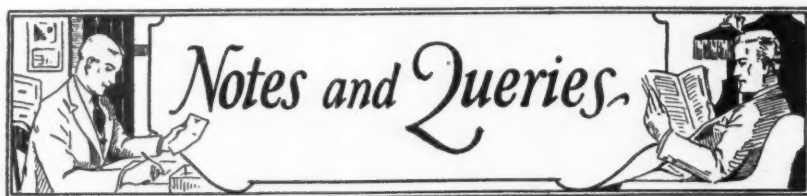
The pleasure ride referred to occurred on Mr. and Mrs. Sauer's twenty-fifth wedding anniversary. Many more of them. We would like to show the buggy, but we can't.

\* \* \*

He: "I've an awful lot of electricity in my hair."

She: "I don't doubt it. You have such shocking things always on your mind."





#### Paint for Galvanized Iron

From Reece & Talbot Sheet Metal Company, 1518 North Main Street, Rockford, Ill.

Please tell us who makes a paint for galvanized iron that will not peel off.

Ans.—Goheen Corporation, 331 Madison Avenue, New York City.

#### Address of American Society of H. & V. E.

From R. A. Glotten, 15023 Vine Street, Harvey, Ill.

Can you give me the address of the American Society of Heating and Ventilating Engineers?

Ans.—29 West 39th Street, New York City.

#### Humidifiers and Air Cleaners.

From Bangor Mill Supply Company, 76-80 Washington Street, Bangor, Me.

We should like to know who manufactures humidifiers and air cleaners for furnaces.

Ans.—Automatic Humidifier Company, Cedar Falls, Ia.; Geo. W. Diener Manufacturing Company, 400 Monticello Avenue, Chicago, Ill.; Langenberg Manufacturing Company, 4519 Euclid Avenue, St. Louis, Mo.; F. Meyer & Brother Company, Peoria, Ill.; L. J. Mueller Furnace Company, Milwaukee, Wis.; Perfect Humidifier Company, 1605 Chemical Building, St. Louis, Mo.; Sallada Manufacturing Company, 720 South Fourth Street, Minneapolis, Minn.; J. L. Skuttle Manufacturing Company, Dowagiac, Mich.; Watt Manufacturing Company, Sterling, Ill.

#### Address of Allen Air Turbine Ventilator Co.

From R. H. Vandevelde & Company, 113 Market Street, Dyersburg, Tenn.

We should like to know where the Allen Air Turbine Ventilator Company is located.

Ans.—14th and Lafayette, Detroit, Mich.

#### Aluminum Elbows

From Edward Williger Sheet Metal Works, 361 West Superior Street, Chicago.

Can you tell me who makes aluminum elbows?

Ans.—Aluminum Company of America, Pittsburgh, Pa., and carried in stock in Chicago by the Steel Sales Corporation, 129 South Jefferson Street.

#### Butterfly and Balanced Dampers

From H. M. Tovar Company, 411 Pine Street, Port Huron, Mich.

Please tell us who manufactures butterfly and balanced dampers.

Ans.—F. Meyer & Brother Company, Peoria, Ill., and Draft-A-Justor Corporation, 229 North La Salle Street, Chicago, Ill.

#### Electric Soldering Irons

From Freize & Knebes, La Crosse, Wis.

Kindly inform us who makes electric soldering irons.

Ans.—American Electrical Heater Company, Detroit, Mich.; Dover Manufacturing Company, Dover, O.; Everhot Manufacturing Company, Maywood, Ill., and Harold E. Trent Company, 12th and Hamilton, Philadelphia, Pa.

#### Monel Metal

From H. K. Christensen Manufacturing Co., Fort Atkinson, Wis.

Who makes monel metal?

Ans.—International Nickel Company, Inc., 67 Wall Street, New York City, and Steel Sales Corporation, 129 South Jefferson Street, Chicago, Ill., are distributors in this territory.

**Paramount Electrical Supply Company**  
From C. P. Pearman, Albany, Ohio.

Is the Paramount Electrical Supply Company in business?

Ans.—Yes, at 600 West Adams Street, Chicago.

#### Retinning

From R. W. Wright, Columbia, Mo. Please tell me who does retinning.

Ans.—Thompson Bremer & Company, 1750 Carroll Avenue, Chicago, Ill.

#### Tinned Wire Baskets

From R. L. Spellerberg & Son, 343 West Eighth Street, Dubuque, Ia.

We should like to know who makes tinned wire baskets for dish washing purposes.

Ans.—Union Steel Products Company, 841 West Randolph Street,

Chicago; Peerless Wire Goods Company, 6 North Michigan Avenue, Chicago, and Fred J. Meyers Manufacturing Company, Hamilton, O.

#### "Robinson" Cornice Brake

From Forest Harding, 1130 Eighth Street, Rapid City, S. D.

Who makes the "Robinson" metal cornice brake?

Ans.—The New Albany Machine Manufacturing Company, New Albany, Ind.

#### Rolling Window Screens

From R. L. Spellerberg & Son, 343 West Eighth Street, Dubuque, Ia.

Can you tell us who makes rolling window screens?

Ans.—American Rolling Screen Company, 7701 Avalon Avenue; Higgin Manufacturing Company, 228 North LaSalle Street, Chicago; W. L. Van Dame Company, Dubuque, Ia., and Rolscreen Company, Pella, Ia.

#### Steel Pulleys—"Federal" Steel Pulleys

From Siemens Furnace Supply Company, 219 North Tenth Street, Quincy, Ill.

We should like to know who makes steel furnace pulleys. Do you know who makes the "Federal" pulleys?

Ans.—Hart & Cooley Manufacturing Company, Holland, Mich.; Stover Manufacturing & Engine Company, Freeport, Ill., and Johnson & Sharp Manufacturing Company, Ottumwa, Ia. 2. The "Federal" pulleys are made by the Hart & Cooley Manufacturing Company.

#### Furnace Vacuum Cleaners

From Devino Company, Inc., 16 Bennett Avenue, Waterbury, Conn.

We should like the names and addresses of firms making furnace vacuum cleaners.

Ans.—Brillion Furnace Company, Brillion, Wis.; The Gottschalk Heating Company, Covington, Ky.; National Super Service Company, 812-822 Lafayette, Toledo, O.; Williamson Heater Company, Cincinnati, O., and The Kent Company, Inc., Rome, N. Y.

#### "Knox" Everlasting Cast Iron Smoke Pipe

From F. Z. Hanscom, Elmhurst, Ill.

Please advise me who makes Knox Everlasting cast iron smoke pipe.

Ans.—The Waterloo Register Company, Waterloo, Ia.



Great-  
grandfather  
**Paul Revere**  
founded this  
business



**THE PIONEER OF THE COPPER INDUSTRY**

History dramatizes Paul Revere as a daring, horseback patriot, whose midnight ride echoed 'round the world. In Canton, Mass., are relics of this same Paul Revere,

pioneer in copper rolling, founder of a great American industry.

Here in 1801, Paul Revere built America's first copper-rolling mill and rolled America's first copper sheet. His original Revere & Son (later Revere Copper Co.) was handed down to son, grandson, great-grandson.

+

**A FAR-REACHING CONSOLIDATION**

A year ago came an important consolidation in American industry. Six successful companies joined as one . . . Baltimore Copper Mills, Rome Brass & Copper Co., Taunton-New Bedford Copper Co., Michigan Copper & Brass Co., Dallas Brass & Copper Co., Higgins Brass & Manufacturing Co. Their six plants high-spot the entire industrial area from Boston to Baltimore to Chicago. Their six units, with their specialties, combine to make a complete service in copper, brass and bronze. A natural consolidation!

In the Taunton-New Bedford unit, of which Edward H. R. Revere is Chairman, was the original Revere Copper Company founded in 1801.

So to perpetuate the name Revere in the industry and in the very business which Paul Revere founded, the name of this consolidated group has become:

REVERE COPPER AND BRASS INCORPORATED.

# Revere

## Copper *and* Brass

INCORPORATED

*Divisions:* Baltimore Copper Mills, Baltimore, Md. . . Rome Brass & Copper Co., Rome, N. Y. . . Taunton-New Bedford Copper Co., Taunton, Mass. . . Michigan Copper & Brass Co., Detroit, Mich. . . Dallas Brass & Copper Co., Chicago, Ill. . . Higgins Brass & Manufacturing Co., Detroit, Mich.

GENERAL OFFICES: ROME, N. Y.

*Oldest and largest rollers  
of sheet copper*

When writing mention AMERICAN ARTISAN—Thank you!

# Prices Indicate Business Stability

## Zinc and Tin Prices Rise, While Copper and Lead Remain Unchanged, But Active

Steel is still leading the industrial procession. Since the first of the year it has been showing great activity and has thereby greatly encouraged all business.

Improvement in construction activities has not maintained the pace set in the first few weeks of January. The outlook, however, continues bright. While weekly reports show smaller totals in the value of contracts, awards for the month to date are ahead of those for December.

### Building Costs

Building costs, which last year reached the highest level since 1923, show no signs of declining. The Federal Reserve board's index for 1913 being taken as 100. The index for material costs went up one point in December to 166. An advance in cement prices contributed to this rise. Wages, which have shown an upward trend since 1922, remained unchanged in December, the index holding at 242. A strong effort is being made to sustain wage rates.

### Steel Sheets

Sales of independent sheet steel producers increased 74 per cent in December. Production, totaling 181,916 tons, averaged 60 per cent of capacity against 65.8 per cent in November, according to the National Association of Flat-Rolled Steel Manufacturers. Producers quickly curtailed output as demand began to slide off in the late summer months of 1929, thus preventing accumulation of heavy stocks. The December increase in sales was the first for any month since last July.

Sales and shipments of pig iron continue to show moderate expansion, and are well above the December rate. Bookings by Cleveland furnace interests in the past week totaled 34,000 tons; at Buffalo, 10,000 tons; New York 6,000 tons, and St. Louis 10,000 tons. Substan-

tial orders also were placed in New England, Alabama and Chicago districts. January shipments are reported by Middle Western furnace interests as 25 to 30 per cent more than those of December. A valley stack has been relighted and another furnace in the Chicago district is scheduled to go in blast by March 1. Due to the fact some melters still are taking shipments on fourth quarter contracts new business at Pittsburgh and Youngstown is quiet. Prices show no evidence of giving further ground.

### Copper

Demand from foreign consumers in the past week has been quite large. Sales yesterday were close to 2,000 tons and at least 750 tons was booked on Saturday. The total for the month will approximate 30,000 to 35,000 tons, which is considerably larger than in December. Domestic consumers continue to buy only from hand-to-mouth, and total bookings for the week have been relatively small, although there has been a fair business done each day, all for early delivery. While no definite announcement has been made, reports are general that further curtailment of output at the mines has been inaugurated by several companies. Prices continue firm, and there are still no indications of a change. The feeling persists that there will be none, in view of the fact that values have been maintained in the last two months when buying has been at low ebb. Electrolytic copper is quoted at 18c, delivered in the Connecticut Valley for the first quarter.

### Tin

After a week of quite active buying, the market has turned very quiet and prices have advanced from the low point of last week. Because of the advance, consumers have ceased buying to any extent and sellers are not exerting pressure. Prices in London today are

about £4 per ton higher than a week ago, with spot standard quoted at £176 7s. 6d., future standard at £179 10s. and spot Straits at £178 2s. 6d. The Singapore price today was £180. Warehouse stocks in London are now 13,816 tons, which is a high total, and it is expected that, because of this, there will be an increase in the world's visible supply as of January 31. The market here today was quiet because of advancing prices. Spot Straits tin was quoted as 39.37½c, New York.

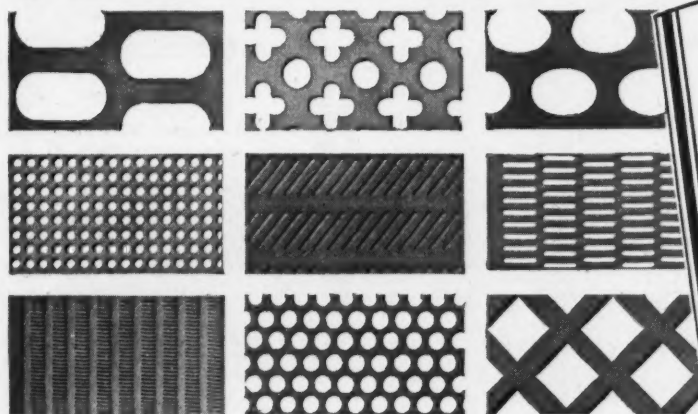
### Lead

Consumers have booked some business for March and have made inquiries for March lead, as well as for part of their April needs. Producers are not keen in booking March delivery and particularly April metal, and, if orders were taken, a premium would probably be charged. Present business, which is not large, is confined to nearby metal and prices continue very firm, at 6.10c, St. Louis. The quotation of the leading interest is 6.25c, New York, as the contract price.

### Zinc

Prices of prime Western slab zinc continue to advance, and only a very little metal, if any, is available, at 5.25c, East St. Louis, practically all producers asking 5.30c. Inquiry continues good and considerable business is still being booked for the first quarter, with some April metal also included. Consumers are inquiring for second quarter delivery, but producers are reluctant to book that far ahead, although in some cases a little May metal has been contracted for. Quotations are firm at 5.30c, East St. Louis, or 5.65c, New York. The ore position is exceedingly tight. Severe weather in the Joplin district has intensified voluntary curtailment and production last week was at a low record of about 2,400 tons.

# Perforated Metals *for every requirement*



## PLAIN & ORNAMENTAL Perforations

For All  
Screening & Grading  
Operations  
Architectural Grilles  
Radiator Enclosures  
Safety Guards  
and  
Innumerable uses



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New York Office, 114 Liberty St.

**SHEET  
STEEL  
SERVICE** Galvanized and Black  
Anaconda  
Copper  
Toncan  
Iron

24 HOUR SERVICE

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**SHEET STEEL CO. - ROCKFORD, ILL.**

You waste no time opening and closing BERTSCH FORMING ROLLS

Our patented device makes opening and closing a matter of a few seconds.

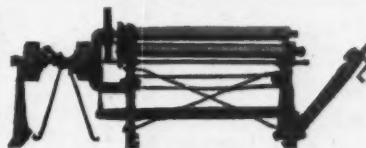
Do your work neater and much quicker with this Bertsch Forming Roll. It will pay for itself with its time and labor saving features in a short time.

All Bertsch machines are high grade in construction as well as design.

Write for catalog "R" today for full details.

We build a complete line of Shears, Punches, and Bending Rolls for Power and Hand Operation.

BERTSCH & COMPANY, Cambridge City, Ind.



Put this machine to work for you now. — Write for prices.

Have you a pattern drafting or ventilating problem you want solved?

Send it to AMERICAN ARTISAN with full details



Send for catalog today

## VIKING SHEAR

Compound LEVER Handle—Removable Blades

A child can work them

**VIKING SHEAR CO., Erie, Pa.**

Mention AMERICAN ARTISAN in your reply—Thank you!



# Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN is the only publication containing Western Metal, Furnace Supply and Hardware prices corrected weekly

Note: These Prices Are Chicago Warehouse Prices of Metal, to Which Must Be Added Freight to Cities Outside of Chicago

## METALS

### PIG IRON

Chicago Fdy.,	
No. 2	\$20 00
Southern Fdy. No. 2	21 51
Lake Superior Charcoal	27 04
Malleable	20 00

### FIRST QUALITY BRIGHT CHARCOAL TIN PLATES

IC 20x28 112 sheets	\$22 50
IX 20x28	25 50
IXX 20x28 56 sheets	14 50
IXXX 20x28	15 50
IXXXX 20x28	17 00

### TERNE PLATES

IC 20x28, 40-lb. 112 sheets	\$26 70
IX 20x28, 40-lb. 112 sheets	29 70
IC 20x28, 25-lb. 112 sheets	22 20
IX 20x28, 25-lb. 112 sheets	25 20
IC 20x28, 20-lb. 112 sheets	20 25
IX 20x28, 20-lb. 112 sheets	23 00

### "ARMCO" INGOT IRON PLATES

No. 8 ga.—100 lbs.	\$4 15
3/16 in.—100 lbs.	4 05
1/4 in.—100 lbs.	3 85

### COKE PLATES

Cokes, 80 lbs., base, 20x28	\$12 00
Cokes, 90 lbs., base, 20x28	12 20
Cokes, 100 lbs., base, 20x28	12 40
Cokes, 107 lbs., base, IC	
20x28	12 75
Cokes, 135 lbs., base, IX	
20x28	14 75
Cokes, 155 lbs., base, 2X	
56 sheets	8 50
Cokes, 175 lbs., base 3X,	
56 sheets	9 35
Cokes, 195 lbs., base 4X,	
56 sheets	10 25

### BLUE ANNEALED SHEETS

Base 10 ga.—per 100 lbs.	\$3 35
"Armco" 10 ga.—per 100 lbs.	4 15

### ONE PASS COLD ROLLED BLACK

No. 18-20	per 100 lbs. \$3 85
No. 22	per 100 lbs. 4 00
No. 24	per 100 lbs. 4 05
No. 26	per 100 lbs. 4 15
No. 27	per 100 lbs. 4 20
No. 28	per 100 lbs. 4 30
No. 29	per 100 lbs. 4 45
No. 30	per 100 lbs. 4 55

### "ARMCO" GALVANIZED

"Armco" 24	per 100 lbs. \$6 10
------------	---------------------

### GALVANIZED

No. 16	per 100 lbs. \$4 40
No. 18	per 100 lbs. 4 55
No. 20	per 100 lbs. 4 70
No. 22	per 100 lbs. 4 75
No. 24	per 100 lbs. 4 90
No. 26	per 100 lbs. 5 15
No. 27	per 100 lbs. 5 25
No. 28	per 100 lbs. 5 40
No. 30	per 100 lbs. 5 80

### BAR SOLDER

Warranted 50-50	per 100 lbs. \$28 00
48-52	per 100 lbs. 27 00
45-55	per 100 lbs. 24 50
Plumbers'	per 100 lbs. 23 00

### ZINC

In Slabs	\$7 35
----------	--------

### SHEET ZINC

Cask Lots (600 lbs.)	\$12 00
Sheet Lots	14 00

### BRASS

Sheets, Chicago base	24 1/2c
Mill base	23 1/2c
Tubing, brazed, Chicago base	31 3/4c
Mill base	30 3/4c
Tubing, seamless, Chicago base	29 1/2c
Mill base	28 1/2c
Wire, Chicago base	24 1/2c
Mill base	23 1/2c
Rods, Chicago base	22 1/2c
Mill base	21 1/2c

### COPPER

Sheets, Chicago base	27 1/2c
Mill base	26 1/2c
Tubing, seamless, Chicago base	30 1/2c
Mill base	29 1/2c
Wire, plain rd., 8 B. & S. Go.	
and heavier	25 1/2c

## LEAD

American Pig	\$7 00
Bar	8 00

## TIN

Bar Tin	per 100 lbs. \$46 00
Pig Tin	per 100 lbs. 45 00

## HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

### ASBESTOS

Paper up to 1/16	.6c per lb.
Roll board	7 1/2c per lb.
Mill board 3/32 to 1/2	7 1/2c per lb.
Corrugated paper (250 sq. ft. to roll)	\$6 00 per roll

### ASBESTOS SEGMENTS

8 in.	per 100 sets \$7 30
9 in.	per 100 sets 8 30
10 in.	per 100 sets 9 30
12 in.	per 100 sets 10 50

### BRUSHES

Furnace Pipe Cleaning	
Bristle with handle, each	\$0 75
Flue Cleaning	
Steel only, each	1 25

### CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 40
American Seal, 10-lb. cans, net	80
American Seal, 25-lb. cans, net	2 00
Pecora	per 100 lbs. 7 50

### CHIMNEY TOPS

Adams' Revolving	
Wt. Doz.	Price Doz.
4 in.	21 lbs. \$11 00
6 in.	24 lbs. 11 50
7 in.	30 lbs. 13 50
8 in.	33 lbs. 15 00
9 in.	41 lbs. 16 50
10 in.	55 lbs. 18 00
12 in.	66 lbs. 22 00
14 in.	110 lbs. 36 00

### CLINKER TONGS

Each	\$1 50
------	--------

### CLIPS

Damper	
No-Rivet Steel, with tail	
pieces, per gross	\$9 50
Rivet Steel, with tail	
pieces, per gross	7 50
Tail pieces, per gross	2 40

### COPPERS—Soldering

Pointed Roofing	
3 lb. and heavier	per lb. 40c
2 1/2 lb.	per lb. 45c
2 lb.	per lb. 48c
1 1/2 lb.	per lb. 55c
1 lb.	per lb. 60c

### CORNICE BRAKES

Chicago Steel Bending	
Nos. 1 to 6B	Net

### CUT-OFFS

Gal., plain, round or cor. rd.	
26 gauge	30%
28 gauge	35%

### DAMPERS

Yankee Hot Air	
7 inch, doz.	\$1 60
8 inch, doz.	2 20
9 inch, doz.	2 60
10 inch, doz.	2 80
12 inch, doz.	3 50
14 inch, doz.	5 00

### ADAMS No. 1 CHECK

Check and Collar Complete	
8 inch, each	2 00
9 inch, each	2 25
End Check Only	
8 inch, each	1 60
9 inch, each	1 85

### Collar Only

8 inch, each	50
9 inch, each	65

### No. 2 CHECK

8 inch, each	1 00
9 inch, each	1 00
10% Disc. on Adams No. 1	

## and No. 2 Check

Diamond Smoke Pipe	
7 inch, doz.	\$2 00
8 inch, doz.	3 20
9 inch, doz.	4 80
10 inch, doz.	9 00
Adams' Sheet Metal	

7 inch, doz.	\$1 60
8 inch, doz.	2 20
9 inch, doz.	2 60
10 inch, doz.	2 80
12 inch, doz.	3 50
14 inch, doz.	5 00

## EAVES TROUGH

Galv. Crimpedge, crated	.75-10%
Zinc, "Barnes"	.60%

## ELBOWS

Conductor Pipe	
Galv. plain or corrugated, round flat Crimp,	
28 gauge	.60%
26 gauge	.45%
24 gauge	.15%

## Galv. Terne Steel

Plain Rd. and Rd. Corr.	
28 gauge	.60%
26 gauge	.45%
24 gauge	.15%

## Square Corrugated

28 gauge	.50%
26 gauge	.35%

## Portico Elbows

Standard Gauge Conductor Pipe, plain or corrugated,	
Not nested	.70 & 5%
Nested solid	.70 & 5%

## Sq. Corr., A. & B. & Octagon

28 gauge	.50%
26 gauge	.35%

## Portico

1, 1 1/4, 1 1/2 inch	.45%
----------------------	------

## Copper

16 oz., all designs	.40%
---------------------	------

## Zinc

All styles	.60%
------------	------

## ELBOWS—Stove Pipe

1-piece Corrugated, Uniform Blue	
"Milcor" No. 28 Gauge, Doz.	
5 inch	\$1 15
6 inch	1 25
7 inch	1 75

## Special Corrugated

6 inch	\$1 00
7 inch	1 60

## Adjustable—Uniform Blue

"Milcor" No. 28 Gauge, Uniform Blue,	
5 inch	\$1 60
6 inch	1 75
7 inch	2 10

## WOOD FACES—60% off list.

## FENCE

726-6-12 1/2 (100 rods)	\$28 68
1948-6-14 1/2 (100 rods)	43 62

## FILES AND RASPS

Heller's (American)	.50-10%
American	.60-10%
Arcade	.50%
Black Diamond	.50%
Eagle	.50%
Great Western	.50%
Kearney & Foot	.50%
McClellan	.50%
Nicholson	.50%
Simonds	.50%

## FIRE POTS

Geo. W. Diener Mfg. Co.	Each
No. 02 Gasoline Torch, 1 qt.	\$5 13
No. 9250, Kerosene, or Gasoline Torch, 1 qt.	6 50
No. 10 Tinner's Furn.	
Square tank, 1 gal.	11 20
No. 15 Tinner's Furn.	
Round tank, 1 gal.	10 70
No. 21 Gas Soldering Furnace	8 00
No. 110 Automatic Gas Soldering Furnace	10 50

## GLASS

Single Strength, A, all brackets	.85%
Single Strength, B, all brackets	.87%
Double Strength, A, all brackets	.85%
Double Strength, B, all brackets	.87%

## HANGERS

Conductor Pipe	
Milcor Perfection Wire	.25%
Milcor Triplex Wire	.10%

Eaves Trough	
Milcor Steel (galv. after forming) from List	.50%
Milcor Selflock E. T. Wire, List	.10%

## HOOKS

Conductor	
"Direct Drive" Wrought Iron for wood or brick	.15%

## HUMIDIFIER

"Front-Rank," Automatic	
In single lots	.50%
In lots of 10 or more	.50-5%
In lots of 25 or more	.50-10%
Vapor pans, etc., each	.50%

## LIFTERS

Stove Cover	
Coppered	per gro. \$6 60
Alaska	per gro. 4 75

## MALLETS

Tinners	
Hickory	per doz. \$2 20

## MITRES

Galvanized steel mitres	
28 gauge	.70
26 gauge	.60-20

## NAILS

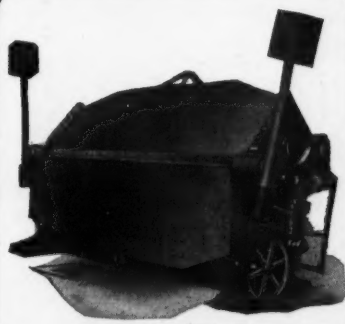
Cut Steel, base	\$4 00
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Wire	
Common Wire, L. C. L.	2 95
Cement Coated	2 95

(Continued on page 44)

## CHICAGO STEEL BENDING BRAKES AND FORMING PRESSES

The perfected result of over 30 years experience in the manufacture of sheet metal bending machines. Over 25,000 machines in use.



POWER BRAKE

Hand Brakes  
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Power Brakes  
Box and Pan Brakes  
Forming Presses  
Special Brakes and Presses



FORMING PRESS

The most complete and up-to-date line of sheet and plate bending and forming machines in the world. Lengths, 3 to 16 feet, with capacity to bend from the lightest metals up to  $\frac{3}{4}$  in. plate, cold.

**DREIS & KRUMP MANUFACTURING CO.**

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139 North Clark Street.

Chicago, Ill.



Covered by  
Patent No. 1020508

This little  
machine  
will do all  
your cutting  
quicker and  
better



**Put this No. 18 Hand Power  
MARSHALLTOWN  
Throatless Shears  
in your shop and save money**

It cuts straight or curves in any direction and it takes sheets of unlimited width up to 18 gauge. It's speedy, accurate and it stands up under hard constant use. The blades are made of the finest steel and the construction throughout is high grade. Because it does all your cutting jobs so efficiently it saves time, temper and money. It does not cost much—the smallest of shops use it.

Write Dept. A.A. today for details and prices. Ask for catalog on the complete line—

**MARSHALLTOWN MANUFACTURING CO.**  
Marshalltown, Iowa

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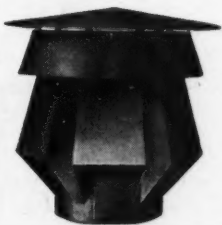
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PASTE		RIDGE ROLL	
Asbestos Dry Paste		Galv. Plain Ridge Roll, b'dld ....	
200-lb. barrel ....	\$15 00	Galv., Plain Ridge Roll, crated ....	
100-lb. barrel ....	7 75	.....75-15%	
50-lb. pail ....	4 50		
25-lb. pail ....	2 50		
10-lb. bag ....	1 20		
5-lb. bag ....	60		
POKERS, FURNACE		SCREWS	
Each ....	\$0 75	Sheet Metal	
		7, 1/2 x 1/2, per gross.....	
		No. 10, 3/4 x 3/16, per gross	
		No. 14, 7/8 x 1/4, per gross..	
		.....\$0 52	
		..... 68	
		..... 88	
POKERS, STOVE		SHEARS, TINNERS' & MACHINISTS'	
Nickel Plated, coil handles, per doz. ....	\$1 10	Viking ....	
W'r't Steel, str't or bent, per doz. ....	0 75	.....\$22 00	
PIPE		Lennox Throatless	
Conductor		No. 18 ....	
Cor. Rd., Plain Rd., or Sq.		Shear blades ....	
Galvanized		(f. o. b. Marshalltown, Iowa)	
Crated and nested (all gauges) ....		.....35%	
Crated and not nested (all gauges) ....		.....10%	
.....75-7 1/2%			
.....75-2 1/2%			
Furnace Pipe		SHIELDS, ADJUSTABLE RADIATOR	
Double Wall Pipe and Fittings ....		No. 1 "Gem" 11 to 17 inch...	
.....50 & 10%		No. 2 "Gem" 14 to 24 inch...	
Single Wall Pipe, Round Galvanized Pipe ....		No. 3 "Gem" 35 to 65 inch...	
.....50 & 10%		.....30%	
Galvanized and Tin Fittings ....		.....30%	
.....50 & 10%			
Lead		SHOES	
Per 100 lbs. ....		Galv. 28 Gauge, Plain or Corrugated, round flat crimp..	
.....\$12 50		26 gauge, round flat crimp...	
Stove Pipe		24 gauge, round flat crimp...	
"Milcor" "Titelock" Uniform Blue Stove		.....15%	
28 gauge, 5 inch U. C. nested ....			
.....\$11 00			
28 gauge, 6 inch U. C. nested ....			
.....12 00			
28 gauge, 7 inch U. C. nested ....			
.....14 00			
30 gauge, 5 inch U. C. nested ....			
.....10 25			
30 gauge, 6 inch U. C. nested ....			
.....11 00			
30 gauge, 7 inch U. C. nested ....			
.....13 00			
T-Joint Made up		SNIPS, TINNERS'	
6 inch, 28 ga. ....		Clover Leaf ....	
per doz. \$3 40		National ....	
		Star ....	
		Milcor ....	
		.....Net	
All Zinc		SQUARES	
No. 11, all styles.....		Steel and Iron.....	
.....60%		(Add for bluing \$3 per doz. net)	
		Mitre ....	
		Try ....	
		Try and Bevel.....	
		Try and Mitre.....	
		Fox's ....	
		per doz \$6 00	
		Winterbottom's ....	
		.....10%	
PULLEYS		STOPPERS, FLUE	
Furnace Tackle ....		Common ....	
per doz. \$0 85		Gem, No. 1.....	
.....per gro. 8 50		Gem, flat, No. 3.....	
Furnace Screw (enameled) ....		per doz. 1 00	
.....per doz. 75			
PUTTY		VENTILATORS	
Commercial Putty, 100-lb. Kits ....		Standard ....	
.....\$3 15		.....30 to 40%	
QUADRANTS		WIRE	
Malleable Iron Damper.....		Black annealed wire, No. 9, per 100 lbs.....	
.....10%		.....\$3 30	
		Galvanized barb wire, per 100 lbs. ....	
		.....3 00	
		Cattle Wire—galvanized catch weight spool, per 100 lbs. ....	
		.....3 85	
		Galvanized Plain Wire, No. 9, per 100 lbs.....	
		.....3 75	
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Per Doz.			
7-6, 28-gauge, 1 doz. in carton ....			
.....\$2 00			
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Cast Iron ....			
.....20%			
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1-Piece ....			
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Adjustable Ventilators....			
40&10%			



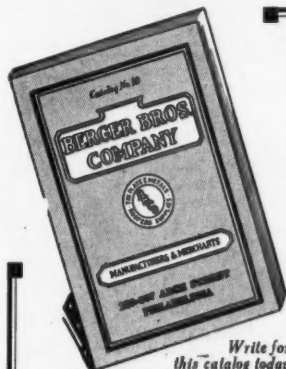
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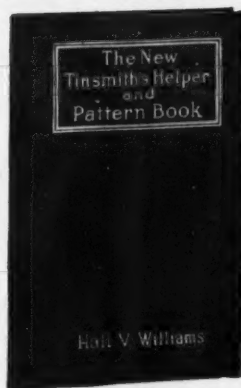
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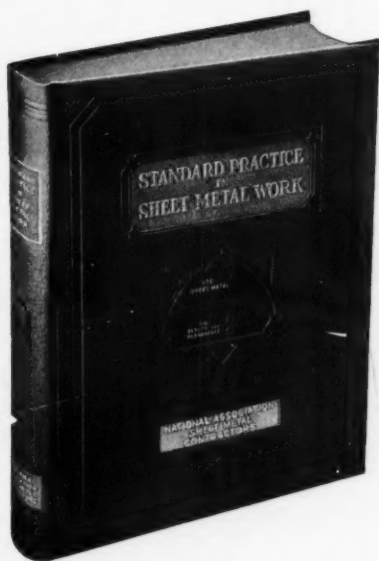
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American Wood Register Co.,  
Plymouth, Ind.  
Auer Register Co.,  
Cleveland, Ohio  
Eller Mfg. Co., Canton, Ohio  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City

## Regulators—Heat.

H. M. Sheer Co., Chicago, Ill.

## Ridging.

American Rolling Mill Co.,  
Middletown, Ohio  
Eller Mfg. Co., Canton, Ohio  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City

## Rivets—Stove.

The Kirk-Latty Co.,  
Cleveland, Ohio  
Lamson & Sessions Co.,  
Cleveland, Ohio  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

## Rods—Stove.

The Kirk-Latty Co.,  
Cleveland, Ohio  
Lamson & Sessions Co.,  
Cleveland, Ohio

## Rolls—Forming.

Bertsch & Co.,  
Cambridge City, Ind.

## Roofing Cement.

Connors Paint Mfg. Co., Wm.,  
Troy, N. Y.

## Roof—Flashing.

Eller Mfg. Co., Canton, Ohio  
Milwaukee Corrugating Co.,  
Milwaukee, Wis.

## Roofing—Iron and Steel.

American Rolling Mill Co.,  
Middletown, Ohio  
Central Alloy Steel Corp.,  
Massillon, Ohio  
Eller Mfg. Co., Canton, Ohio  
Inland Steel Co., Chicago, Ill.  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

## Roofing—Tin.

Eller Mfg. Co., Canton, Ohio  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City  
Taylor Co., N. & G.,  
Philadelphia, Pa.

## Rubbish Burners.

Hart & Cooley Co.,  
New Britain, Conn.

## Schools—Sheet Metal Pattern Drafting.

St. Louis Technical Institute,  
St. Louis, Mo.

## Schools—Warm Air Heating.

St. Louis Technical Institute,  
St. Louis, Mo.

## Screws—Hardened Metallic Drive.

Eller Mfg. Co., Canton, Ohio  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City  
Parker-Kalon Corp.,  
200 Varick St., New York

## Screws—Hardened Self-Tapping, Sheet Metal.

Eller Mfg. Co., Canton, Ohio  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City  
Parker-Kalon Corp.,  
200 Varick St., New York

## Screens—Perforated Metal.

Harrington & King Perforating  
Co., Chicago, Ill.

## Shears—Hand and Power.

Interstate Machinery Co.,  
Chicago, Ill.  
Marshalltown Mfg. Co.,  
Marshalltown, Ia.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.  
Viking Shear Co., Erie, Pa.

## Sheet Metal Nails.

Deniston Co., Not Inc.,  
Chicago, Ill.

## Sheet Metal Screws—Hardened, Self-Tapping.

Parker-Kalon Corp.,  
200 Varick St., New York

## Sheets—Alloy.

Central Alloy Steel Co.,  
Massillon, Ohio  
International Nickel Co.,  
New York, N. Y.

## Sheets—Black and Galvanized.

American Rolling Mill Co.,  
Middletown, Ohio  
Central Alloy Steel Corp.,  
Massillon, Ohio  
Eller Mfg. Co., Canton, Ohio  
Inland Steel Co., Chicago, Ill.  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio  
Rockford Sheet Steel Co.,  
Rockford, Ill.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.  
Taylor Co., N. & G.,  
Philadelphia, Pa.

## Sheets—Iron.

American Rolling Mill Co.,  
Middletown, Ohio  
Central Alloy Steel Corp.,  
Massillon, Ohio  
Eller Mfg. Co., Canton, Ohio  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

## Shingles and Tiles—Metal.

Eller Mfg. Co., Canton, Ohio  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City

## Sifters—Ash.

Diener Mfg. Co., G. W.,  
Chicago, Ill.

## Sky Lights.

Eller Mfg. Co., Canton, Ohio  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City

## Smoke Pipe—Cast Iron.

Waterloo Register Co.,  
Waterloo, Ia.

## Snips.

Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

## Solder—Acid Core.

Kester Solder Co., Chicago, Ill.

## Solder—Self-Fluxing.

Kester Solder Co., Chicago, Ill.

## Solder—Rosin Core.

Kester Solder Co., Chicago, Ill.

## Solder.

Eller Mfg. Co., Canton, Ohio  
Kester Solder Co., Chicago, Ill.  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City

## Soldering Coppers.

Revere Copper & Brass,  
Rome, N. Y.

## Soldering Furnaces.

Diener Mfg. Co., G. W.,  
Chicago, Ill.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

## Specialties—Hardware.

Diener Mfg. Co., G. W.,  
Chicago, Ill.

## Stars—Hard Iron Cleaning.

Fanner Mfg. Co., Cleveland, Ohio

## Statuary.

Geroch Bros. Mfg. Co.,  
St. Louis, Mo.  
Miller & Doing, Inc.,  
Brooklyn, N. Y.

## Stove Pipe Reducers.

Eller Mfg. Co., Canton, Ohio  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City

## Tinplate.

Eller Mfg. Co., Canton, Ohio  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio  
Taylor Co., N. & G.,  
Philadelphia, Pa.

## Tools—Tinsmith's.

Bertsch & Co.,  
Cambridge City, Ind.  
Dries & Krump Mfg. Co.,  
Chicago, Ill.  
Hyro Mfg. Co., New York, N. Y.  
Interstate Machinery Co.,  
Chicago, Ill.  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio  
Rockford Sheet Steel Co.,  
Rockford, Ill.  
Southington, Conn.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.  
Viking Shear Co., Erie, Pa.

## Torches.

Bruno Martin, Saginaw, Mich.  
Diener Mfg. Co., G. W.,  
Chicago, Ill.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

## Trade Extension.

Copper & Brass Research Associ-  
ation  
Sheet Steel Trade Extension  
Committee, Cleveland, Ohio

## Vacuum Cleaner—Furnace.

Brillion Furnace Co.,  
Brillion, Wis.  
National Super Service Co.,  
Toledo, Ohio  
Williamson Heater Co.,  
Cincinnati, Ohio

## Ventilators.

Aeolus Dickinson Co., Chicago, Ill.  
Berger Bros. Co.,  
Philadelphia, Pa.  
Eller Mfg. Co., Canton, Ohio  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City

## Ventilators—Ceiling.

Hart & Cooley Co.,  
New Britain, Conn.  
Henry Furnace & Fdy. Co.,  
Cleveland, Ohio

## Windows—Steel.

Lupton's Sons Co., David,  
Philadelphia, Pa.

## Wood Faces—Warm Air.

Auer Register Co.,  
Cleveland, Ohio  
American Wood Register Co.,  
Plymouth, Ind.  
Eller Mfg. Co., Canton, Ohio  
Milwaukee Corrugating Co.,  
Mil., Chgo., La Crosse, Kan. City

Say you saw it in AMERICAN ARTISAN—Thank you!

## WANTS AND SALES

Yearly subscribers to the AMERICAN ARTISAN may insert advertisements of not more than fifty words in our Want and Sales Columns **WITHOUT CHARGE** for three insertions.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired and must reach our office ten days prior to date of publication. This privilege is not extended to manufacturers or jobbers—or those making a business of buying and selling used machines—employment agencies and brokers.

When sending advertisement state whether your name or blind number is to be used.

## BUSINESS CHANCES

**Lightning Rods**—Dealers who are selling Lightning Protection will make money by writing to us for our latest Factory to Dealer Prices. We employ no salesmen and save you all overhead charges. Our Pure Copper Cable and Fittings are endorsed by the National Board of Fire Underwriters and hundreds of dealers. Write today for samples and prices. L. K. Diddle Company, Marshfield, Wis.

**Wanted**—Would like to get in touch with a practical man in the fender and body business; I am considering putting in a first class shop of this kind in a live town of 60,000. Must be capable of estimating and have a practical working knowledge of this business. Married man preferred and references required. Address K-514, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Let me hear from owner of hardware store with tin shop in connection, who is willing to sell part interest in business. I am a sheet metal furnace man 35 years old with family. Or, let me hear from a hardware dealer who has need of competent sheet metal and furnace man for year around work. Address S-514, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

**For Sale**—A well equipped sheet metal and furnace business on account of old age in best city in southern Illinois. If interested write to Mount Vernon Sheet Metal Works, Mt. Vernon, Ill. M-514

**For Sale**—Well located power sheet metal shop in Portland, Ore. General sheet metal, blow pipe and furnace business. Building leased at \$40 month. About \$4,000 needed. Terms to responsible party. The right man can make money here. Address O-514, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

**For Sale or Rent**—Well equipped tin shop in country town. Good location, large territory, plenty of work, good prices and most all cash. I will give good terms to a reliable man. If you are tired of working for the other fellow, it will pay you to address a letter to The Orland Tin Shop, Orland, Ind. F-513

**For Sale**—Well equipped sheet metal and plumbing business in north central Indiana. Fine farming community. Must sell on account of ill health. Address A. B. Cripe, Camden, Indiana. R-514

**For Sale**—Well equipped sheet metal shop in the best city in southern Illinois. 12,000 population. Sickness compels me to sell. Don't overlook this opportunity. Address K-515, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

## SITUATION WANTED

Young, aggressive executive, thoroughly versed in stove and furnace business, seeks position for 1930. Capable of handling branch or any executive duties. Address A-513, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Situation wanted by tinner and furnace installer; A-1 references; central Illinois preferred. Address S-513, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Situation wanted by all around sheet metal worker and furnace man; health and habits o. k.; can take charge if required and produce. Address T-513, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Warm air furnace salesman, 35 years of age, with best of references, wishes position with manufacturer or first class jobber; 12 years' experience in sales work, 8 years in one factory; handles any detail; experienced in forced warm air heating and code estimating; successful sales record; go anywhere; what have you to offer? Address W-513, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Situation wanted by A-1 combination tinner, plumber and heating man. Thoroughly experienced as clerk in hardware store; married and active; capable of taking charge of shop if desired; best of references and can come at once at reasonable wages; only steady position considered. Address X-513, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

**Furnace Salesman**—A reliable furnace heating man and salesman wants to communicate with furnace manufacturer (cast or steel) reference to position and territory for 1930. Address Z-512, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Situation wanted by good combination man, tinning, plumbing and heating; now employed, wants change; south preferred; state wages and hours. Address Z-513, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Situation wanted by A-1 sheet metal worker of 25 years' experience on light and heavy sheet metal work; have experience on restaurant equipment, cornice and pipe work and general sheet metal work that comes to jobbing shop; would like to hear from reliable concern where they work 8 or 9 hours per day; state particulars in first letter. Address A-514, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

A competent plumber, furnace man and tinner wants position about February 1 or later; strictly sober and reliable and able to take charge of work. Address, stating wages, B-514, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

**Situation Wanted**—Young man, age 28, with 10 years' experience in job work, furnace, cornice, pipe work, slate and tile roofing; pattern cutting a specialty; married and will go anywhere for right kind of job. Address C-514, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Man with 20 years' experience in manufacture and sales of warm air furnaces and familiar with all types warm air, hot water and steam heat, desires connection; prefer traveling—no choice of territory; 42 years of age. Address D-514, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

**Jobber Connection**—Communication welcomed from reputable furnace manufacturer desirous of operating a distributing point in a large Wisconsin city on a consignment arrangement and handle all accounts. For such connection offer adequate warehouse facilities. A wide acquaintance through the furnace trade with years of experience. Replies held in strict confidence. Address B-513, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Young man 32 years of age desires permanent connection with reliable furnace company. Has had nine years' experience in the furnace business covering all phases including manufacturing, selling and handling of correspondence. Can furnish best of references. Address A-515, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

## SITUATION WANTED

Young man with fan heating and ventilating experience, able to take charge of shop or erect work. Wants position with concern making a business of fan heating. Will go anywhere. Address B-515, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Situation wanted by A-1 combination man. Have had 18 years of experience, can lay out own patterns in sheet metal, handle hot air, hot water and steam heat. Married. Address L. C. Stoakes, Anamosa, Iowa. C-515

Man thoroughly versed, with extraordinary experience in engineering and selling of up-to-date warm air heating, open to negotiate for position with manufacturer or contracting concern at once. Address D-515, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Salesman calling on furniture and hardware department store trade in Chicago and suburbs wants line of stove pipe, stove boards and stove rests to sell to above dealers on commission basis. A-1 references. Address E-515, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

Expert layoutman, shop foreman and estimator wishes connection with reliable sheet metal firm. Age 36 years—23 years' experience has given me knowledge at all lines the trade requires. Address O-515, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

## HELP WANTED

**Wanted**—All around handy man with at least two years of experience to work in country shop where we do plumbing, tinning and heating. Steady work. Must furnish references. Address C-513, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

**Wanted**—A-1 salesman to call on jobbers and manufacturers in the warm air heating industry; attractive commission arrangement; handle as side line. Address E-514, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

**Master Plumber**—Combination in hot water, steam, vapor and warm air to act as working foreman; must have unusual amount of experience in all of above lines along modern heating and plumbing practices. Steady work, investment if desired. Write A. C. Butters, 439 Eastwood Pl., Milwaukee, Wis. F-514

**Wanted**—Salesman to cover Chicago territory, to sell high grade line of metal warm air registers. Liberal proposition. For details address F-515, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

We want a live man capable of taking charge of our shop in south. Work from 20 to 50 men. Do sheet metal, tile, slate and composition roof work. Give full information as to experience, age, salary expected, etc. Address G-515, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

We have steady job in south for two good sheet metal workers. Prefer men with experience on tile and slate roofing. Scale, \$1.00 per hour. Advise experience, age and when you can report to H-515, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

## TINNERS' TOOLS

**For Sale**—One 30-in. square shears—1 30-in. rolls—1 30-in. stove pipe folder—1 20-in. bar folder—1 20-in. groover—1 triplex lever punch, 3/16-1/4-5/16, burring, wiring, turning, swedging, crimping machines—stakes, bench, etc. Will sell all or in part. Address Jacob Brenner, 47 Third St., Fond du Lac, Wis. T-514

**For Sale**—Power conductor pipe seaming and corrugating machine, complete. Address W-514, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

**Wanted to Buy**—A used set of tinner's, plumber's and steamfitter's tools. Must be in good shape and priced right. Address Box 473, Harvey, N. D. L-515

**For Sale**—Good ten-foot steel brake, and Chicago elbow machine, with jigs for four-piece elbow V.I.Z. 7-8-9-10-12-14-16-18-inch, in good condition. Address Milton Rogers & Sons Co., Omaha, Nebr. M-515



**TINNERS' TOOLS**

For Trade—One 30-in. squaring shears in good condition for other tools. Can use serpentine shear, welding outfit or Whitney punch. Address J. M. Prall, 405 West Fifth St., Oklahoma City, Okla. Y-514 MISC

Wanted—One used rotary or throatless shear to fasten on bench hand, operated for 18 ga. and lighter. In quoting, state make and condition. Address Frederick H. Lord, Belle Haven, Va. X-514

Wanted—2,500 full enamel gas ranges 16-in. oven of modern design. Describe fully and best cash price. Address Z-514, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

We are in the market for the following used machinery: Power or hand ROTARY CUTTING SHEARS for No. 10 gauge, four or five foot, BOX or PAN BRAKE for No. 12 gauge, medium size bench or stand POWER PRESS. Address Dean Specialty Works, San Antonio, Texas. E-513

For Sale—One Chicago Elbow Machine complete with jigs, also a quantity of IC and IX tinplate, rolled to size. Address D-513, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

For Sale—Complete set of tinsmith's tools in A-1 shape at a bargain for cash. For full particulars write E. A. Goehring, 1336 Retallack St., Regina, Sask., Canada. G-514

For Sale—1 No. 41 Beaver die, cuts 2½ to 4 inches; 1 No. 4 Barnes 3 wheel pipe cutter; 1 4-inch piper vise; 1 36-inch pipe wrench. These tools are all brand new and will sacrifice for \$55. Address Chas. Y. Nellis, 705 S. Franklin St., Robinson, Ill. H-514

Wanted—Used burring machine; state condition, make and price; must be in good condition and priced right. Address F. D. Savage, New Market, Ia. L-514

For Sale—1,000 ft. giant 32 wire fine copper lightning rod cable; 16 complete tops—4 high and 8 bungalow; 16 glass balls—8 white, 8 blue; 2 plain aluminum arrow vanes; 2 23-inch horse vanes; 2 23-inch cow vanes. All brand new. Cost \$115—\$80 cash takes it. Address J-514, AMERICAN ARTISAN, 39 N. Clark St., Chicago, Ill.

**MISCELLANEOUS**

Would like to know the whereabouts of Louis B. Berg who at one time was employed by the Homer Furnace Company and the Rudy Furnace Company. Mr. Berg, we understand, has lived in Topeka, Kansas. Address P-513, AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

For Sale—Oil burner in A1 condition. Address Wm. J. Rannigan, 7119 Michigan Ave., Swissvale, Pa. G-513

For Sale—Floor cases, counter cases, open table, scales, cash register, Sunstrand adding machine, Oliver typewriter, F. E. check protectors, squaring shears, plumbing tools, etc. Address George H. Frise, Estate, Odell, Illinois. J-515

**SPECIAL NOTICES**

**The Rate for Special Notices**  
— displayed want ads —  
**\$3.00 per inch per insertion**  
When sending copy state whether your name or blind number is to be used—also how many insertions are desired.

**PATENTS**

HUBERT E. PECK  
Patent Attorney  
Barrister Bldg., WASHINGTON, D. C.

**SPECIAL NOTICE**

This classified ad is directed to manufacturers only by a woman secretary who desires to make a change. During past two years have acted in secretarial capacity for a man well known and respected in this industry. His retiring at the present time from the organization makes it necessary that I obtain a new connection. Am capable to handle details for manufacturer from both retail and wholesale angles. References backed by several years' experience. At present located in Columbus. Willing to make change. Address P514, American Artisan, 139 N. Clark St., Chicago, Ill.

**EXPERIENCED SALESMAN**

between 25 and 35 years old to sell high grade line furnaces and boilers to the trade in Wisconsin territory. Address H513, American Artisan, 139 N. Clark St., Chicago, Ill.

**WANTED**

Canadian Warm Air Furnace Manufacturer with good trade connection and live wire sales force, wants to secure exclusive Agency for a good side line, that can be marketed to the Tinsmithing, Plumbing and Hardware trade. What have you to offer? Address O513, American Artisan, 139 N. Clark St., Chicago, Ill.

**SPECIAL NOTICE****CLEAN HOMES FOR \$2.00 !!!**

Have your furnace double sealed with INSA-LUTE CEMENT (liquid porcelain). Applied like paint, does not require the furnace to be re-set. Used by hundreds of furnace installers throughout the country. Place your order for an 8 lb. can at \$2.00 today!

TECHNICAL PRODUCTS COMPANY  
2308 Main Street Pittsburgh (15) Pa.

**BOOKS**

The Standard Code Computing Rule, which is adapted from Article III of the 5th Edition of the Standard Code, is being used by warm air heating men all over the country. Here is what the Computing Rule will determine: (1) The warm air pipe and register areas for first, second and third floor rooms. (2) The areas necessary for 70° inside temperature when the outside temperatures are zero, 10, 20 and 30 degrees above or below zero. (3) The areas from the contents, glass, wall, roof and ceiling. The factors as covered in Table "A" are represented in accurate form. (4) The areas for rooms having one, one and one-half and two air changes per hour. (5) The unusual exposure requirements as the 10% for east and west and 15% for northeast, north and northwest rooms. Rule is circular, measuring 5½ inches in diameter and ¼ inch thick, being made of specially prepared celluloid. Washable and unbreakable.

Price, \$3.00, postpaid, from Book Dept., AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

The Revised Edition of the New Metal Worker Pattern Book by Kittredge and Associates is one book that should be in every shop. As a reference book alone it is indispensable. Over 500 9x11-inch pages with 895 illustrations. It covers the principles underlying practically every problem that is likely to come up in daily practice. Beginning with the selection and use of drawing tools, the author explains linear and geometrical drawing so clearly that one who has had no previous knowledge of arithmetic or drawing may understand these essentials and apply them. The most approved methods of pattern cutting are also given in the course of the work. Price, \$6.00, postpaid. Order from the Book Dept., AMERICAN ARTISAN, 139 N. Clark St., Chicago, Ill.

**BUILD IT YOURSELF FROM OUR FULL SIZE PAPER PATTERNS**

Write for  
Folder No. 9

Outboard motor boats, Canoes, Hunting and Fishing boats, speediest and safest boats afloat. Any mechanic can build them; no special tools are required. Write today for free illustrated folder No. 9 on the Thompson MASTER Steel boats and patterns.

H. F. Thompson Boat & Pattern Works  
508-10 West Water St. Decorah, Iowa

Mention AMERICAN ARTISAN in your reply—Thank you!

Moorhead, Minnesota,  
July 1, 1929.

American Artisan,  
139 N. Clark St.,  
Chicago, Ill.

Gentlemen:

Please discontinue my ad in your Wants and Sales columns as I have already secured a man. Still the replies keep coming in, and except for filing away against future needs I have no use for more men.

It surely has been a splendid demonstration of the value of your columns in reaching the special people that I had to get in touch with.

Thanking you heartily again,  
I am

Very truly yours,  
Dan S. Colvin.



February 1, 1900

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# Dealers profit from MODERNIZED METHODS

Competition in the furnace business, just as in other industries, is giving the advantage to those who are progressive.

Many outstanding organizations owe as much of their success to intelligent buying as they do to superior selling.

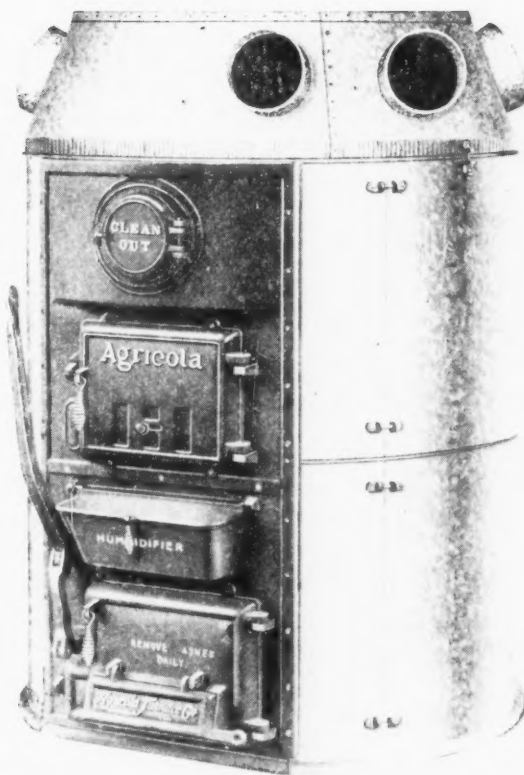
Carload buying of AGRICOLA Furnaces in the past year, has again demonstrated to hundreds of new Dealers, the big advantage of this modern merchandising method.

If you haven't yet changed your buying methods to the changed conditions, let us show you how the carload plan may be applied to your business. Your inquiry will bring the facts.

**AGRICOLA FURNACE CO., Inc.**

Gadsden, Alabama

*Offices in Principal Cities*



*Only modern manufacturing methods make possible the production of this quality furnace to sell at competitive prices.*

# Agricola FURNACES



AMERICAN ARTISAN

## Inside Winter Work With ELLER

Metal Ceilings and Walls Keeps the Profits  
Coming Through the Winter



—Eller Dealer Service  
Makes Estimates  
Easy

COLD weather may stop outside work . . . It need not stop profits. There is plenty of "inside" business installing Eller Metal Ceilings and Walls. Look for modernizing and remodeling jobs. Use your Eller Catalog to help you sell. It is full of attractive designs appropriate for any type of building. Then send rough sketches and dimension plans to the Eller Dealer Service. We will

tell you just what material you need and how much it will cost.

Eller "Perfect-fit" Metal Ceilings and Walls are easy to apply . . . time saving . . . and labor saving. They assure a neat, workmanlike job. Go after this profitable business . . . The Eller Dealer Service will help get it. Remember, send in your sketches and plans for an accurate estimate. Write for new catalog.

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**THE ELLER MANUFACTURING CO.**  
CANTON, OHIO

Affiliated with MILWAUKEE CORRUGATING COMPANY

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